

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LONDON, SATURDAY, JULY 17, 1875.

[WITH SUPPLEMENT.] {PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value. BUSINESS in all COLLIERIES and IRON Shares, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.

COTTON SPINNING SHARES Bought and Sold, including those of Oldham, Bury, Heywood, Darwen, Accrington, and neighbouring districts. This description of security can be purchased to pay the investor very fair interest upon outlay. Accounts opened for the fortnightly Settlement.

Monthly and Daily Price Lists issued.
Bankers: City Bank, London; South Cornhill Bank, St. Austell.

SPECIAL BUSINESS in the following, or part:—15 Asheton, 30s.; 20 Bampfylde, 18s.; 5 Bilson, 50 Bog, 9s. 6d.; 50 Chapel House, £3 17s. 6d.; 15 Cedar Creek, 21s.; 15 Cardiff and Swansea, 30 Emma, £1 18s. 3d.; 20 Flagstaff, £2 1s. 3d.; 50 Frontino, 14s.; 100 Javali, 9s.; 25 Laves Chemical, 3 Nant-y-Glo, £44 15s.; 30 Old Treburget, 4s. 6d.; 10 Pateley Bridge, £7 5s.; 100 Parys Mountain, 13s. 6d.; 25 Positive Assurance, 13s.; 35 Plynlimmon, 8s. 6d.; 80 Rookhope, 3s. 9d.; 25 St. Patrick, 22s. 6d.; 25 Sweetland, £3 1s. 3d.; 15 Tankerville, £10 17s. 6d.; 20 Thorp's Gawber, £10 15s.; 40 United Bituminous, 5s. 6d.; 10 West Chiverton, £10 1/4.

* Shares sold for forward delivery (one or two months) on deposit of 20 per cent. Business on hand in all the leading TIN, COPPER, and LEAD Shares.

PATELEY BRIDGE LEAD.—Special Business in these Shares. The mine is situated in the celebrated Grassington district.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

CHAPEL HOUSE COLLIERY.—FOR SALE, SHARES in this COMPANY, paying good dividends.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

WEST CHIVERTON MINE.—Special Business. Shares dealt in at closest market prices.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.

Transacts business in MINING and COLLIERIES Shares of every description. English and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange.

PURCHASES and SALES negotiated in Unmarketable Stocks and Shares. Speculative Accounts opened for the fortnightly Settlement. References given and required when necessary.

A Stock and Share List forwarded to bona fide Investors free on application.

Bankers: The National Provincial Bank of England, E.C.

W. H. B. has SPECIAL BUSINESS in the undermentioned:—

20 Asheton, 20s.	100 East Grenville.	10 Sweetland Creek, £210
30 Bampfylde, 38s.	50 Flagstaff, £1 19 6d.	100 So. Aurora, 10s.
10 Blue Tent, £2 1/2.	75 Frontino, 10s. 6d.	15 South Condurow, 4 1/2
50 Bampfylde, 18s.	100 Gold, 4s. 6d.	150 St. Patrick, £1 1/2
40 Bog, 9s. 6d.	50 Gold Run, 18s.	5 Tankerville, £10 1/2
10 Bilson & Crump.	50 Javali, 10s.	2 Tincroft, £18 1/2
50 Cathedral, 27s. 6d.	20 Ladywell, £3 1/2.	5 Tecoma, 14s.
75 Cedar Creek, 19s. 6d.	30 Last Chance, £1 6s. 6d.	30 United Mexican.
2 Carn Brea, £35 1/2.	25 Marke Valley, 40s. 6d.	5 Van, £24 1/2.
25 Cardiff and Swansea.	50 Malabar, 13s.	40 Van Consols, £2 1/2
5 Cape Copper, 34 1/2.	50 Malpas, 13s. 6d.	20 Wh. Kitty (St. Agnes)
25 Chicago (Silver).	25 New Quebrada, £3 16 3/4	£2 1/2.
50 Chontales, 13s.	100 Old Treburget, 5s. 6d.	10 West Chiverton, £15 1/2
40 Chapel House, £3 1/2.	30 Pateley Bridge (Lead).	20 Wh. Grenville.
20 Devon Con., £2 19s.	50 Parys Mount, 13s.	30 W. Godolphin.
50 Don Pedro, 13s. 6d.	100 Port Phillip, 13s.	120 West Milver.
3 Dolcoath, £39 1/2.	75 Penrith, 10s.	30 Tylwyd, 16s. 6d.
50 Emma (Silver), 28s.	25 Penrith, £1 1/2.	25 Yorke Penin., 9s.
25 East Van, 32s.	50 Plynlimmon, 10s. 6d.	50 West Esqair Lie.
15 Eberhardt, £3 13s. 9d.	100 Rookhope, 6s.	15 Whea Jane.
10 East Lovell, £5 1/2.	10 Roman Gravel, £12 1/2.	25 Whea Uny.
40 East Caradon, 28s. 6d.	25 Richmond, £13 18s. 9d.	

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C. (Established 10 years), has SPECIAL BUSINESS in South Condurow, Prince Patrick, Wheel Kitty, Penhalls, and Chapel House Shares at close prices.

FERDINAND R. KIRK, STOCK BROKER,
Consols, Foreign Bonds, Railways, and every security quoted on 'Change bought and sold.

Bankers: London and Westminster, and City Bank.

Clients giving the usual "cover" can open accounts for the fortnightly settlement. Coupons collected and drafts cashed free of charge. Preferences given when necessary in most of the leading towns of the United Kingdom. Commission on Railways 5s. per cent. and 2s. 6d. on Foreign Bonds.

SPECIAL BUSINESS in Glaisdale Quarry, Alltani Colliery, Eberhardt, Cape Copper, Cardiff, Chapel House, Pateley Bridge Lead. Particulars may be had of this rising company.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
77, CORNHILL, LONDON.

Turkish Six Per Cents. of 1854, 1855, 1862, 1865, 1871, and 1873 specially recommended; also Whea Grenville, Treleigh Wood, Parys Mountain, Whea Peavor, and Crebor shares.

Business transacted at the following rates of commission:—Foreign Stocks, 1/4 per cent.; and Mining Shares of £4 each and upwards, 1 1/4 per cent.; under £4, 1s. per share.

G. E. SIMPSON, STOCK AND SHARE DEALER,
6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C., will SELL the FOLLOWING SHARES, free of commission:—

20 Asheton, 27s. 6d.	50 East Van, 30s.	50 Pateley Bridge, £26.
50 Almada, 18s. 3d.	100 Frontino, 10s.	10 Roman Gravel, £12 1/2.
40 Bog, 8s. 6d.	50 Flagstaff, £2.	15 Richmond, £13 1/2.
70 Birdseye, £1 16s.	50 Gold Run, 18s.	70 St. Patrick, £1 2s. 6d.
40 Chapel House, £3 1/2.	50 Hington, £1 7s. 6d.	30 Sweetland Creek, £2 19s.
50 Cedar Creek, 19s.	75 Javali, 10s. 3d.	20 So. Condurow, £4 18 9
75 Chontales, 13s.	50 Ladywell, £3 6s. 3d.	15 Tankerville, £10 1/2.
20 Don Pedro, 14s.	50 Marke Valley, £2.	5 Van, £24.
15 Eberhardt, £3 13s. 9d.	50 Mynydd Gorrdu, £20 1/2.	50 Van Consols, £2 1s. 3d.
40 Eberhardt, £3 13s. 9d.	40 Penrith, £1 1/2.	

JOHN MOSS AND CO., STOCK AND SHARE DEALERS,
224 and 225, GRESHAM HOUSE, OLD BROAD STREET, E.C.

Transact Business in all descriptions of British and Foreign Stocks and Mining Shares, either for cash or the account. Speculative accounts for the fortnightly settlement opened on special and advantageous terms.

J. M. and Co. advise respecting the Sale and Purchase of all classes of Security, and Investors should communicate with them before buying.

J. M. and Co. have great pleasure in pointing their clients to the steady and continuous improvement made in the North Prince Patrick Mine, which is evident from the reports published weekly in the columns of this Journal. From this point the shares may be expected to have as great a rise as the South Prince Patrick. J. M. and Co. are always able to deal in these shares.

Bankers: The London and County Bank, Lombard-street.

MESSRS. HARLAND AND CO., STOCK AND SHARE DEALERS,
235 and 236, GRESHAM HOUSE, LONDON, E.C.

Bankers: London and County Bank.

Messrs. H. and Co. wish to direct attention to the DIVIDENDS declared by CHAPEL HOUSE and ALLTANI COLLIERIES, and will be happy to supply shares in these companies at market rates.

SPECIAL BUSINESS in Patent Ligno Mineral Paving Company.

P. WATSON, STOCK AND SHARE DEALER,
79, OLD BROAD STREET, LONDON.
Bankers: The Alliance Bank (Limited).

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON.
(Established 1853.)

Mr. COOKE can Sell the following Shares, and guarantees delivery, free of commission:—

30 Bampfylde, 20s.	40 Mynydd Gorrdu, 63 9	15 Roman Gravel, £12 1/2.
50 Cathedral, 28s.	50 North Prince Patrick.	40 Saint Patrick, 22s. 6d.
25 Chapel House.	80 Old Treburget, 4s. 6d.	50 Tylwyd, 19s. 6d.
20 Fir Tree House Col., £5	40 Pateley Bridge.	20 Van Consols, £2 1s. 3d.
50 Glaisdale, 21s.	50 Penrith, 10s.	25 Whea Crebor, £2 1/2.

Shares having no quotations affixed may be had at lowest market prices.

WEST CHIVERTON.
The latest reports and advice may be had on application. Capital may be made daily by operating in these Shares. Business at close market prices.

GLAISDALE QUARRY.
Having visited Glaisdale Quarry during the past week, Mr. COOKE is enabled to afford full information as to the property.

Mr. COOKE can transact business in nearly all Coal, Iron, Manufacturing, and Miscellaneous Shares.

On immediate application, Mr. COOKE can recommend shares destined to rise several pounds per share.

On payment of 20 per cent. deposit shares may be had for end of August account.

MR. T. E. W. THOMAS, SWORN SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

Buyers.	Sellers.	Buyers.	Sellers.
Birdseye Creek, £1 1/2.	8s. 6d.	Penrith, 10s.	11s.
Bog, 7s. 6d.	8s. 6d.	Plynlimmon, 10s.	11s.
Carn Brea, 38s.	38s.	Port Phillip, 12s. 6d.	12s. 6d.
Chontales, 12s.	14s.	Price of Wales, 4s.	5s.
Devon Great Consols, 2 1/2.	3	Richmond, 13 1/2.	14
Dolcoath, 38s.	40	Roman Gravel, 12 1/2.	13 1/2
Don Pedro, 12s.	14s.	St. Patrick, 1 1/2.	1 1/2
Eberhardt, 8 1/2.	8 1/2	South Carn Brea, 1 1/2.	1 1/2
East Caradon, 1 1/2.	1 1/2	South Condurow, 4 1/2.	5
East Van, 1 1/2.	1 1/2	So. Roman Gravel, 15s.	17s. 6d.
Flagstaff, 2 1/2.	2 1/2	Sweetland Creek, 2 1/2.	3
Gawton, 11s.	12s.	Tankerville, 10 1/2.	10 1/2
Gold, 4s.	4s.	Tincroft, 17 1/2.	18 1/2
Hington Down, 1 1/2.	1 1/2	Van, 21s.	21s.
Javali, 9s.	10s.	Van Consols, 1 1/2.	2 1/2
Ladywell, 3 1/2.	3 1/2	West Chiverton, 14s.	16
Marke Valley, 1 1/2.	2	West Godolphin, 1 1/2.	1 1/2
New Quebrada, 3 1/2.	3 1/2	West Tankerville, 12s. 6d.	17s. 6d.
New Rosario, 7s.	8s.	Wheal Crebor, 2s.	2 1/2
Parys Mountain, 12s.	13s.	Wheal Jane, 3s.	3 1/2
Penrith, 1 1/2.	1 1/2	Wh. Kitty (St. Agnes), 2 1/2.	3

MR. WILLIAM WARD
(LATE WARD AND LITTLEWOOD),
CROSBY HOUSE,
95, BISHOPSGATE STREET WITHIN, E.C.,
STOCK AND SHARE BROKER.

MESSRS. PYNE AND ASHMEAD,
CITY MINING AGENTS,
LONDON MANAGEMENT OF COMPANIES UNDERTAKEN.
ACCOUNTS AUDITED, LIQUIDATIONS CONDUCTED.
6, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 19 Years),

can sell the following SHARES, at prices annexed:—

30 Asheton, 28s. 9d.	20 Ladywell, £3 10s.	20 Van Consols, £2 2s.
20 Birdseye, £1 18s.	40 Marke Valley, 38s.	20 Sweetland, £2 19s. 6d.
50 Bog, 8s. 9d.	45 Mynydd Gorrdu, £20 1/2.	20 South Tolcarne, 6s.
20 Clea Hill, 5s.	20 New Quebrada, £3 10s.	50 St. Patrick, 22s. 6d.
20 Chapel House, £3 1/2.	10 N. Sharlston, £5 1/2.	20 So. Carn Brea, £1 1/2.
50 Cathedral, 28s. 3d.	50 Parys Mount, 12s. 3d.	50 Tylwyd, 19s. 6d.
25 Emma, £17 1/2.	60 Port Phillip, 13s. 6d.	5 West Chiverton, £14 1/2
10 Eberhardt, £3 1/2.	80 Price of Wales, 4s. 3d.	25 West Esqair Lie, 16s.
30 Flagstaff, £2 1/2.	25 Penrith, £1 1/2.	20 Wheal Crebor, £2 1/2.
50 Glaisdale, 20s.	50 Penrith, 10s. 6d.	40 W. Tankerville, 17s.
50 Gunnislake (Clit.), 32s. 6	20 Richmond, £13 1/2.	20 W. Godolphin, £1 7 1/2
50 Javali, 9s. 9d.	70 Richards & Co. £4 1/2.	100 West Milver, 7s.
70 Plynlimmon, 8s. 6d.	100 Rookhope Valley, 4s. 9	10 Wedgwood (off wtd.)

MR. W. TREGELLAS, 122, BISHOPSGATE STREET WITHIN, E.C.,
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Accounts opened for the fortnightly settlement, and shares sold for forward delivery on receipt of cover.

SPECIAL BUSINESS in the following British and Foreign Mines, Colliery, and other Shares:—

55 Almada, 18s. 3d.	10 Great Lacey.	170 Rios, 6s. 6d.
15 Birdseye, 37s.	55 Great W. Van, 9s. 9d.	75 Rookhope, 5s.
25 Bilson and Crump, £10	30 Grogwinon.	30 Sweetland, £3.
75 Bog, 8s. 6d.	50 Gawton, 12s. 6d.	30 South Aurora, 10s.
60 Bedford United, 11s.	25 Hington Down.	25 So. Condurow, £4 1/2
45 Clea Hill, 5s.	15 Hudson's Bay.	40 St. Patrick, 22s. 6d.
10 Cape Copper.	85 Javali, 9s. 3d.	30 Thorp's Gawber.
50 Cathedral, 28s. 6d.	40 Ladywell, £3 1/2.	80 Tecoma, 14s. 6d.
50 Cedar Creek, 20s.	55 Malpas, 13s.	15 Tankerville, £11.
25 Chicago, £4 1/2.	55 Malabar, 12s.	10 Tincroft, £18 1/2.
60 Chontales, 12s. 3d.	30 Marke Valley.	40 Van Consols, £1s. 6d.
50 Chapel House.	30 Native Guano.	5 Van, £29 1/2.
25 Cardiff & Swan, £3 1/2.	65 New Rosario, 7s. 6d.	70 Victoria (London),
45 Colorado.	60 Old Treburget, 5s.	Gold, 7s. 6d.
75 Don Pedro, 14s.	40 Pateley Bridge.	50 West Jewell, off wtd.
20 Devon Gt. Con., £3.	55 Penrith, 10s. 6d.	50 West Godolphin.
35 Emma, 38s. 9d.	50 Penrith, 10s. 6d.	10 West Chiverton.
20 Eberhardt, £3 1/2.	50 Penrith, 10s. 6d.	10 Wheal Kitty, £2 1/2.
15 East Lovell, £5.	50 Port Phillip, 13s. 6d.	15 Wheal Crebor.
65 Flagstaff, £2.	50 Plynlimmon, 10s.	40 W. Tankerville, 16s. 3d.
60 Frontino	70 Parys Mountain, 12s. 6	20 Whea Grenville.
85 Gold, 8s.	50 Rio Tinto.	30 Whea Peavor, 42s.
70 Gold Run, 4s. 9d.	75 Richmond, £13 1/2.	20 Whea Uny, 47s. 6d.

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MR. THOMAS THOMPSON, JUN., 1, PALMERSTON BUILDINGS,
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Some valuable hints as to the purchase of mining shares will be found in Mr. Thompson's "Investment Circular" for July now ready, post free, price 6d.

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Address, Messrs. CHARLES HOPPE and Co., Santander.

Before fully engaging himself, he is at liberty to make any Surveys and Reports in Spain or Portugal.

A PRACTICAL MAN, who has had much experience as Manager, Secretary, and Cashier in Lead and Copper Mines, understands Mining Accounts, Inspects and Reports, is PREPARED TO LODGE £500 or £1000 for the HONEST and CORRECT DISCHARGE of ANY PROPERTY which may be placed under his control.

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JOHN GARDINER, Esq.
CHAS. W. REYNOLDS, Esq.

SIR J. E. EARDLEY WILMOT,
BART., M.P.

The Report for 1874, copies of which with the statements of account can be obtained on application, shows that a sum equal to 40 per cent. of the premium income was added to the funds, while the general income was increased. 349 policies, averaging £535 each, were issued.
The directors continue to make advances to assureds in the office on liberal terms.

H. D. DAVENPORT, Secretary.

THE IRON INDUSTRIES OF SOUTH STAFFORDSHIRE AND WORCESTERSHIRE.

By RICHARD MEADE, Assistant Keeper of Mining Records,
Museum of Practical Geology.

The coal field in which these industries are located is one of the most important in central England, and differs from all others in the character of the or underlying rock, which is Upper Silurian (Wenlock limestone and shales), the millstone grit, or carboniferous limestone, on which the coal usually rests in other fields, being absent here. In other words, the old land surface on which the flora grew was an eroded surface of Upper Silurian rocks. It has been clearly shown by the late Prof. J. B. Jukes, in his memoir on the "South Staffordshire Coal Field," that whilst the same accumulations were going on in other parts of England, a broad tract of land, extending over Shropshire, Staffordshire, and Warwickshire, was dry land. Consequently the usually associated condition of other coal fields is here wanting; both the grits and limestones of the carboniferous series being absent, the well-marked isolated Silurian masses of Dudley, Sedgley, and Walsall, rising from beneath the coal measures, and on which they rest. This coal field extends from Rugeley, in the North, to the Clent Hills, in the south, a distance of 20 miles, embracing the important districts of Cannock Chase, Wolverhampton, Bilston, Dudley, Corngreaves, &c., and has an average width of from seven to eight miles, and is bordered by the Bunter Sandstone and Permian Rock, the former having a thickness of 1200 ft., the latter exceeding 2000 ft. The coal measures beneath are divided into upper and middle, the upper division consisting of red and mottled clays, red and grey sandstones, and gravel beds, and having a total thickness of 800 ft., but barren of coal seams. The middle measures, however, contain in a thickness of upwards of 500 ft. six important seams of coal, interstratified with numerous courses of ironstone; the general section of these measures is given as follows by the late Prof. Jukes, the thickness of the seams and strata being the average of many sections in the southern district of the coal field:—

Upper Coal Measures:—	Feet.
Red and mottled clays, red and grey sandstone, and gravel beds ...	800
Middle Coal Measures (1300 ft.):—	
1.—Brooch coal ...	4
Strata, with ironstone ...	130
2.—Thick coal ...	30
Strata, with Gubbin ironstone ...	20
3.—Heathen coal ...	4
Strata, with ironstone ...	109
4.—New mine coal ...	8
Strata, with ironstone ...	16
5.—Fire-clay coal ...	7
Strata ...	30
6.—Bottom coal ...	12
Strata, with several courses of ironstone ...	140

The above six seams give a total thickness of 65 ft. of workable coal, the most important of which is the "Thick coal," 30 ft. or 10 yards thick, a source of great wealth to the district of Dudley; this celebrated seam is in the northern part of the coal basin near Essington and Pelsall, and represented by nine distinct seams, divided and separated by 420 ft. of sandstones and shales; each of these seams has its own underclays, roof, and fossil contents. An interesting feature in this coal field is the basaltic mass of Rowley Regis, forming a hill two miles in length, and 820 ft. in height. Prof. Jukes considers that this rock has been poured out in the form of a lava flow during the coal period, for the beds of coal dip under the basalt, and have been followed till found "blackened" or charred, and utterly worthless. With the foregoing brief sketch of this coal area, which stands prominently amongst our iron-making centres, a few facts and figures exhibiting the production and distribution of its coal will show its importance when considered in connection with its iron-making resources.

Taking the returns for the past ten years, as recorded by Her Majesty's Inspector of Coal Mines for South Staffordshire and Worcestershire, the production was as follows. Side by side is given, for comparison, the production of the collieries of Great Britain in the same years, also from Her Majesty's Inspectors' returns:—

Year.	So. Staffordshire and Worcestershire.	Great Britain.
1864	10,206,000	95,122,419
1865	10,201,500	98,911,169
1866	10,300,000	100,728,881
1867	10,268,000	105,077,743
1868	9,900,000	104,566,959
1869	10,408,000	108,003,482
1870	10,400,000	112,875,725
1871	10,500,000	117,439,281
1872	10,550,000	123,497,516
1873	11,100,000	128,544,400
1874	8,500,000	126,590,108

In comparing the production of South Staffordshire for the years 1873 and 1874, a falling off to the extent of 23 per cent. is observable; this is explained in the Inspector's report as due to a strike, which extended over a period of four months, and to the depressed condition of the iron trade in the last-named year. Again it should be stated that in the year 1874 and previous years the returns of production of this district include, as recorded in the Inspector's report, an allowance for waste, colliery consumption, colliers' allowance, and 16 per cent. for the difference between statutory weight and the customary weight of the district. Of the coal raised in this district in the year 1873, the following statement will show the quantities carried by railway and canal, and its distribution:—

Distribution.	Quantity—Tons.
Carried out of county by London and North-Western Railway ...	971,525
Carried out of county by Midland Railway ...	106,484
Carried out of county by Great Western Railway ...	487,635
Carried out of county by canal ...	535,590
Carried by canal for Birmingham ...	812,668
Carried by canal for works in the mining districts ...	3,500,223

IRONSTONE DEPOSITS.—The measures yielding ironstone exist abundantly in this coal field, with their associated beds of shale, in which fossils are found in great profusion. Prof. Jukes, in his introduction to Part II. of the "Iron Ores of Great Britain," and from which many of the facts contained herein have been drawn, gives the following as the beds, or sets of beds, containing workable ironstone. The "Brooch Beds" are beds of clay or shale beneath the Brooch coal, and containing ironstone to the south-west of Dudley, where the beds average about 7 ft. in thickness. The "Pins and Pennyearth." These measures take their name from the form of the

nodules in which the ironstone occurs, the "pins" being small, round, or cylindrical nodules, and the "Pennyearth" small flattish nodules, like penny pieces. The "Ten-foot Stone" and "Backstone" measures, so called from lying immediately above or on the back of the "Thick Coal" in the neighbourhood of Brierly Hill.—The "Grains" or "Whitery." These are merely occasional ironstone measures, consisting of light and dark-coloured clunch, a term applied to coarse, tough clays of the coal measures; these measures are sometimes absent, and where they contain most ironstone, rarely exceed 6 or 8 ft. in thickness. The "Gubbin," sometimes called the Little or Thick Coal Gubbin, is one of the most important and widely diffused of the ironstone measures of this coal field, and yields an average of 1500 tons per acre, the total thickness of the measures varying from 2 to 9 ft., in different places.—The "New Mine Ironstone," or "Whitstone." This is another widely diffused ironstone; it is a light-coloured ironstone, occurring in large nodules, lying in a bed of "clunch;" the layers of nodules vary from 2 to 4 ft., and the whole measure from 2 to 10 ft. in thickness, the most usual being 4 or 5 ft., yielding an average of 1500 tons per acre. Prof. Jukes gives several interesting sections in which these measures occur, and from which the above average thicknesses are derived.—The "Pennystone Blue-stone," or "Cakes." The ironstone of these beds lies in a dark clunch or clay, the nodules being flat, round, and of a dark colour; in the district of Dudley, to the south-west, ironstone has rarely, if ever, been found on this horizon, or below it. The "Fire clay Balls" measure is variable and capricious, and the ironstone irregular in its occurrence, and in the form of balls, hence the name, and resting on the Fire-clay coal. Next, in descending order, comes a bed of fire-clay, varying from 2 to 10 ft. thick, below which the "Getting Rock" occurs, a measure sometimes containing ironstone worth working in certain localities.—The "Poor Robin." This measure is sometimes 3 or 4 ft. thick, and the ironstone is more widely diffused and persistent in its occurrence than in the Getting rock.—The "Rough Hills Whitestone." This ironstone is confined to the district between Bilston and Wolverhampton, at Parkfields; the measures are 19 ft. thick, containing 11 bands of ironstone from 1 to 6 in. thick, and giving a total of 32 in. of ironstone; elsewhere it is not so fully developed.—The "Gubbin and Balls." This measure contains good workable ironstone, occurring principally between Wolverhampton and Walsall. At Chillington the thickness of measures is nearly 7 ft., with four bands of ironstone, giving a total thickness of ironstone of 23 in. The "Blue Flats" ironstone, so called from the flat pavement-like form in which it occurs, at Park Hall, south of Wolverhampton, in a section of 8 ft. 9 in. of measures, are four bands of ironstone, giving an aggregate thickness of 16 in., while at Rye-croft, near Walsall, the measures are found in a thickness of 18 in., with two bands of ironstone each 3 in. thick.—The "Silver Threads." This measure occurs in the district around Walsall, varying from 4 to 7 ft. thick, composed of three or four bands of ironstone, varying from 1 to 4 in. in thickness, and so named from the little threads of shining spar which traverse the ironstone. The "Diamonds" ironstone, the lowest in the series, is confined, like the Silver Threads, as a workable ironstone to the district west of Walsall, where it occurs from 2 to 4 ft. thick, and contains two bands of ironstone varying from 2 to 4 in.

REDUCTION OF IRONSTONE.—The estimated produce of the measures of this district is as follows in each of the years named:—

Year.	Ironstone.	Year.	Ironstone.
1860	Tons 785,000	1871	Tons 705,665
1861	727,000	1872	641,950
1862	700,500	1873	584,325

The average price of which during the past three years may be taken at 12s. per ton. The following table shows the details of production in the year 1873, as returned to the Mining Record Office:—

District, or mine.	Quantities.	Value.
Barber's Field	11,011	£ 6,068 12
Barn Farm	2,660	1,560 0
Birchill's Hall	2,206	1,223 12
Bradley	1,897	1,138 4
Cannock Chase	350	210 0
Coppy Hall	9,189	5,513 8
Deans	5,287	3,172 4
Friar Park	5,614	3,368 8
Grace Mary	2,645	1,587 0
Graville	3,605	2,217 0
Haden Hall	6,480	3,588 0
Hatherton	8,295	4,975 16
Jervoise	2,122	1,273 4
Moxley	1,880	1,128 0
New Cross	15,503	9,301 16
Old Hall	7,100	4,260 0
Parkfields	5,073	3,043 16
Priestfields	3,735	2,241 0
Princes End	3,115	1,870 16
Pearson	2,125	1,275 0
Riddings	2,168	1,300 16
Roughwood	7,045	4,227 0
Stow Heath	9,404	5,640 0
Ditto	11,312	6,787 4
Slut End	3,971	2,382 12
Tansey Green	2,073	1,243 16
Tipton Moor	6,374	3,824 8
Wednesbury	5,233	3,139 4
Wednesbury Oak	4,000	2,400 0
Yatham	5,541	3,324 12
Sundry pits	73,191	43,914 12
Ditto (estimated)	350,004	210,000 0
Total of South Staffordshire	Tons 584,325	£349,941 10

ANALYSES OF THE IRONSTONE.—The late Mr. Samuel H. Blackwell, of Dudley, in the year 1851, made a very valuable collection of the iron ores of the United Kingdom, in which those of the South Staffordshire coal field held a prominent place; they were exhibited in the Great Exhibition of that year, and at its close were presented to the Museum of Practical Geology, where they are now preserved. Mr. Blackwell's generosity did not end with the presentation of the collection of iron ore upon which he had expended so much time and labour; he accompanied his gift with a sum of 500l. towards defraying the expenses of an analytical investigation of the more important varieties of ore in the collection. The analyses were made in Dr. Percy's laboratory, and subsequently published in the "Iron Ores of Great Britain." The ores of South Staffordshire, nearly 30 in number, of which complete analyses have been made, are contained in Part II. of the above-named Memoirs. It will be sufficient, however, to give the composition of two of the characteristic iron-

stones of the district—the "Gubbin," of Dudley, and the "Whitstone," of Rough Hay, Darlaston, the former of which is described by Mr. A. Dick, as follows:—"Clay iron ore; colour, greyish black; structure, compact and homogeneous. It contains thin veins of white pyrites occur."

Results tabulated—Ore dried at 100°C.

	Gubbin.	Whitstone.
Protoxide of iron	48.30	33.92
Peroxide of iron	—	2.77
Protoxide of manganese	1.44	0.71
Alumina	0.44	0.27
Lime	0.76	2.45
Magnesia	0.94	4.11
Carbonic acid	30.44	26.89
Phosphoric acid	—	0.33
Sulphuric acid	—	—
Silica, soluble in acid	0.12	0.09
Potash	—	0.14
Bisulphide of iron	0.07	0.15
Water, hygroscopic	1.38	0.42
Water, in combination	—	0.98
Organic matter	1.14	0.47
Ignited insoluble residue	15.28	25.55
Total	99.03	99.73

The total amount of metallic iron contained in the "Gubbin" amounted to 36.14, and in the "Whitstone" to 28.75 per cent. Of the other ironstone measures the following abstract will show the relative proportion of protoxide of iron, carbonic acid, and metallic iron contained in each sample examined:—

Clay ironstone measures.	By whom analysis made.	Protoxide of iron.	Carbonic acid.	Metallic iron.
Brooch	Mr. J. Spiller	49.81	28.22	34.35
Pennyearth	Mr. A. Dick	37.69	25.92	29.42
Grains	Ditto	54.12	35.25	42.28
Gubbin	Ditto	46.30	30.44	36.14
Whitstone-bird	Mr. J. Spiller	30.96	22.13	24.88
Bottom whitestone	Ditto	48.63	32.16	37.45
Cakes	Mr. A. Dick	50.60	35.47	39.71
Fire-clay balls	Ditto	48.39	30.90	36.56
Poor Robin	Ditto	49.61	33.05	39.02
Whitstone	Mr. C. Tooke	46.56	30.08	36.56
Gubbin and balls	Mr. A. Dick	52.04	32.31	40.94
Blue Flats	Mr. C. Tooke	42.34	30.91	34.41
Silver threads	Ditto	40.39	33.35	33.14
Diamonds	Ditto	40.01	29.13	33.28

From the foregoing and numerous other analyses of the argillaceous ores of this district, it has been ascertained that 31.75 per cent. represents their average yield of metallic iron. Having thus far considered the extent and resources of the South Staffordshire and East Worcestershire coal field, as regards the production of coal, ironstone, &c., we shall reserve for a further notice the early history, progress, and development of the metallurgical industries of the same district.

[To be continued in next week's Journal.]

COAL AND IRON INDUSTRIES OF THE NORTH—No. IV. SHOTTON COLLIERY.

In the year 1840 the sinking of this colliery commenced, and was brought to completion in 1842; it is situated about midway between Sunderland and Hartlepool, on the North-Eastern Railway, and about five miles north of the East Coast. Like other collieries in the neighbourhood, it is largely worked, and gives employment to upwards of 1000 men and boys. The enterprise was attended with some difficulty during its progress, which were successfully overcome by the skill and experience of those who had it in charge. Although not among the oldest of the North Durham collieries, it does not rank the least either in magnitude or power of output. The seams of coal worked are of average thickness, and the mine promises to outlive, before its coal measures are exhausted, many that are now in the full tide of activity. The workable seams and their thickness include the Five Quarter seam, 3 ft. 7 in.; Main coal, 2 ft. 8 in.; Low Main, 3 ft. 4 in.; Hutton, 3 ft. 9 in.; and the Harvey seam, 3 ft. 2 in. In sinking to the first of these measures some 76 different strata were pierced at a depth of 127 fms. The strata were as follow:—

	Fms. ft. in.	Fms. ft. in.
Strong thill stone	0 2 5/8	
Dark metal	0 0 9/16	
Grey metal	0 1 3	
Dark metal with coal band	0 1 8	
COAL	0 0 3	
Grey metal	0 1 8	1 2 1
Thillstone, with large ironstone balls	0 1 7	
Grey metal	0 2 1	
Grey post	0 3 0	
Grey metal	1 1 4	
Grey post	2 1 4	
Grey metal	1 1 4	
Strong white post, with scaly partings	2 5 4	
Black metal parting	0 0 3	
Strong white post	3 2 2	1 2 1
MAIN COAL SEAM	0 2 8	
Thillstone	0 0 3	
Strong grey metal, with post girdles	4 3 1	
Blue metal	0 1 3	
Blackstone	0 1 5	
Coal with stone	0 0 6	
Thillstone	0 0 9	
Grey metal	5 2 6	
White post, with metal partings	4 2 7	
Mild grey post	6 0 0	
Strong white post	3 0 0	24 2 7
LOW MAIN COAL SEAM	0 3 0	
Thillstone	0 0 6	
Strong grey metal	0 0 6	
Black stone	0 3 6	
Dark metal, with scaly partings	2 3 3	
Coal brass thill	0 0 8	
Thillstone	0 0 4	
Grey post girdle, with beds of strong grey metal	1 4 0	
Strong coarse coal	0 0 2 1/2	
Grey post, with some very strong brown post girdles and beds of grey metal	3 4 0	13 5 11 1/2
Mild grey post, with beds of metal	0 0 6	
Black stone	0 4 3 1/2	1 0 10 1/2
TOP COAL—Hutton seam	0 1 6	
Stone, ditto	0 0 2	
Ground coal, ditto	0 2 5	
Band, ditto	0 0 0 1/2	
Bottom coal ditto	0 1 3	0 5 4 1/2
Hutton Seam to Harvey Seam:—		
Stone, black	0 0 8	
Stone thill, strong	0 3 4	
Metal, grey	1 1 8	
COAL	0 0 4	2 0 0
Stone thill	0 1 8	
Grey metal, with post girdles	0 4 3	
Blue metal, soft	1 1 0	
Black stone, soft	0 1 8	
COAL	0 0 3	2 2 10
Thill	0 2 0	
Grey metal, with post girdles	1 2 0	
White post, strong	1 1 10	
Dark blue metal	0 5 5	
COAL	0 0 7	4
Thill	0 3 6	
Blue metal	0 3 6	
Black stone	0 3 0	
Blue metal, soft	2 3 0	
Strong black, with a mixture of coal particles	0 1 3	4 2 3
Thill	0 3 6	
Grey post, mixed with grey metal	0 4 6	
Grey metal	0 2 3	
COAL	0 0 1	1 4 4
Thill, very soft	1 0 2	
Grey metal	0 4 3	
Strong white post	0 4 2	
Blue metal, soft	0 1 5	3 3
Black stone, mixed with coal	0 1 6	
Thill	0 3 3	
Very dark metal, mixed with post	0 2 10	1 1 7
Harvey seam—very tender, with a little gas	0 2 10	1 1 7
Total		199 3

As we have said, certain difficulties were encountered during sinking operations, not amongst the least of which was the large quantities of sand. On the north side of one of the shafts some 4 fms. of very quick sand was met with, and the engineers in charge had to use sliding tubbing to overcome the difficulty, and, judging from the short time it took to sink the shafts, considerable celerity and ingenuity must have been used in pushing the work forward, and especially under difficulties. The colliery consists of two shafts, each 14 ft. 9 in. in diameter. The south pit is the downcast or in-

take, and the north pit the upcast or outlet, both of which are used for drawing purposes.

The area of the royalty at Shotton includes about 5700 acres, and the average output per day is about 1000 tons. The colliery has a long life before it when it is stated that there yet remains to be got no less than 51,466,337 tons of coal, which at the present rate of output will take upwards of 170 years before the mine is exhausted. The Low Main, the Harvey, and the Hutton seams are the only ones now being worked, and this computation applies only to them. The Low Main is worked S.E. to the dip, and the coals are hauled to the shaft with a 60-horse double-horizontal hauling-engine fixed to the shaft underground. The distance of the workings from the near the shaft underground. The Harvey seam is working S.W., a distance of 3600 yards. The coals are conveyed thither by horse-power; and in a S.E. direction, at a distance of 1500 yards from the shaft, the coals are brought by a double-horizontal engine (60-horse power), fixed near the shaft, also underground. The steam for both engines is conveyed in pipes down the south shaft from six cylindrical boilers, each 40 ft. by 5 ft., fixed near the top of the pit. The workings are carried on on the long wall system in the Harvey seam, and in the Low Main and Hutton seams the bord and pillar working is carried on.

Whenever it is resolved to mine no further in any direction where the pillar system is carried on the pillars themselves are gradually excavated. This is certainly the most hazardous work of all, for the roof becomes shaken by the gradual loss of support, the wooden props are finally knocked down, and it requires extreme agility, even in an experienced pitman, to secure the prop and his own retreat at the same time. We have heard the succeeding crashes of the roof in other pits with no very courageous heart. The deserted portion is called "waste," and it is here that those reservoirs of carbonated hydrogen are collected which are out of the reach of ventilation, and therefore most dangerous. This inflammable gas is mixed with unequal quantities of olefiant, carbonic acid, and nitro-gen gases. These compounds exhibit very different degrees of inflammability when mixed with atmospheric air, according to the different proportions they contain of nitrogen, carbonic acid, and olefiant gases. The former two gases diminish, the latter increases, the inflammability. Contrary to popular expectation, the larger the amount of atmospheric air with which the pit gases can be mixed without losing their destructive power the more dangerous are the explosive mixtures formed by them in coal mines. The most readily explosive mixture of fire-damp with common air is one measure of the former to about seven or eight of the latter. The ventilation of the Shotton pits is, however, accomplished by the most approved apparatus.

The machinery at the mouth of the pits consist of two vertical winding-engines, each 100-horse power nominal fixed between the two pits, and one pumping-engine, condensing 90-horse power fixed on the western side of the south pit shaft. The coals are shipped on Sunderland, Seaham, and Hartlepool by connecting lines from the colliery, and the main purpose for which they are used from the Harvey seam is as coking coal, from the Low Main seam as steam coal, and from the Hutton seam as gas coal. The Hutton seam produces the best of household coal, although for a long time the High Main coal of the Tyne, under the designation of Wallsend, was the most popular. This is ascribed by writers on the subject to the fact that they were sold pure. It is not that coal similar, or indeed of superior quality was not produced by the North Durham collieries, but that the coal of such quality from North Durham was mixed and sold with other coals of an inferior quality. Another element of industry to which the colliery has given rise, and with which it is associated, may be mentioned the large number of artisans it employs. The workshops of the colliery are numerous and extensive, and consist of joiners' shop, fitting shop, saddlers' shop, blacksmiths' shop, storehouses, &c. The village consist of some 469 houses of various classes, suitable for the accommodation required by the occupants.

As in other colliery communities, ample provision is made for the spiritual wants of the population. The places of worship include a church and two Methodist chapels, whilst schools are provided for boys, girls, and infants, which afford accommodation for some 527 children. There is a reverse side to the medal, however, and the taste for strong drink is as marked in this as in other similar localities. No doubt the social condition of the miner has been much improved of late, but there is still a large residuum of ignorance, with its attendant vice, which remains untouched by the ameliorating hand of progress.

THE MINERAL RESOURCES OF THE SOUTH-WEST OF IRELAND—No. XIII.

[FROM OUR SPECIAL CORRESPONDENT.]

DREENALAMON BARYTES.—This is the oldest and most extensive barytes works in the South-West of Ireland. So recently as 1818 we find in Begley's "Useful Knowledge" the following remarks:—"With us the sulphate of barytes is of no use in the arts. The Chinese, however, employ it as an ingredient in the composition of porcelain, and it is said to form a good manure for clover fields." It appears that oxygen and barium combine to form two compounds—the protoxide, usually called barytes, or baryta, and the peroxide of barium. The first of these oxides (barytes), it seems, was discovered in 1774 by Scheele. Barytes is that, combined with sulphuric acid, and forming what is chemically termed sulphate of barytes, and also with carbonic acid, constituting the mineral designated by mineralogists witherite, or carbonate of barytes.

Sir Humphry Davy first gained indications of the decomposition of barytes in the year 1807, and obtained an alloy of it with iron in 1808; and in the same year he obtained the metal which, in appearance, resembles silver. It appears from Begley's works that the sulphate of baryta was of no use in the arts in 1818. In 1839-40 it was scarcely known in the South-West of Ireland. Some small pieces were found near a public road at Dreenalamon, in 1840, by the late Rev. Dr. Traill. He did not know what it was until Capt. W. Thomas informed him that it was sulphate of barytes, and used principally then, 1840, in adulterating white lead. Since then, however, it is extensively used by cotton manufacturers, by paint and colour makers, who mix it with lead and zinc in the manufacture of the most permanent white known, and by makers of paper, porcelain, pottery, plate glass, and chemicals. From 30 to 50 per cent. of baryta is used in the manufacture of the best description of porcelain in the Staffordshire potteries; and the great plate glass manufacturers at St. Helen's, Liverpool, cannot, I am informed, find an article equal in purity to that supplied from the Dreenalamon Mine. Those who may have seen the beautiful articles produced at the Belleek pottery are, probably, not aware that the principal ingredient which enters into their composition was dug out of the rugged mountains of West Cork, or that the splendid mirrors which adorn the walls of the princely halls of Castle Bernard were derived from the same source—the Dreenalamon Barytes Mine, the situation of which is on the western slope of Mount Corim, and close to the road leading from Ballydeoban and Schull to Darcus and Bantry. This great deposit of barytes occurs in a lode from 6 ft. to 20 ft. wide, running in a north and south direction, and cutting across the strata. It is a singular fact that when barytes is found running with the cleavage of the rock it is invariably in small veins and strings, and never occurs in large masses, or worth following.

The barytes in Dreenalamon is the pure sulphate of baryta, and cannot be equalled except in one other spot (Portliver). The mine has been irregularly worked for many years, and although tens of thousands of tons of barytes have been shipped, no impression has been made on Mount Corim, and the works are only now about 30 fms. deep.

IMPROVED MINER'S LAMP.—By the invention of Mr. J. SAWYER. Freiberg, Ill., the lamp is filled with sponge, except a well in the middle, from which the sponge is held by a spiral wire, to allow the wick to extend down into the well. The lower end of the wick tube is funnel-shaped, and the wick is held in it. The flame regulator consists of a tubular sleeve on the upper end of the wick tube, to slide up and down along the flame, and has a rubber-spring ring to hold it fast. There is a hook for connecting the lamp to the hat of the miner, and

a spring for securing it. With this improved lamp miners can safely burn gas-oil and other light products of petroleum, which are much cheaper, and give better light, than the lard oil commonly used.

THE NORTON GREEN COAL COMPANY (LIMITED), STAFFORDSHIRE.

The above colliery, which was opened some few months ago under most excellent auspices, has progressed in an extraordinary manner, a suitable engine, winding gear, &c., having been put down, and is now in good working order, and the surface laid out with every possible care for developing the mines on a large scale, so much so that on our visit, some few days ago, we were astonished at the "beehive" and scientific appearance of the concern. We find that an incline has been driven on the Frogrow seam of coal (which is fully 5 ft. 6 in. thick in solid coal) some 100 yards, and the manager reports that in some four or five weeks time he will have driven down to the part where he intends to drive his first levels to the right and left, and thus on scientific principles bring the whole of the coal to the surface. In this seam, at about the depth of 100 yards, a small longitudinal fault was met with (the only one in the neighbourhood, we believe), which gave some trouble and annoyance for a few weeks in driving the dip, but it was necessary to go right through this fault, for the purpose of having a straight run for the tramway and wagons, and the work is now progressing most favourably.

Some 120 yards on the surface, to the west of this dip, another incline of the same dip has been driven for a considerable extent on the Cockshead seam, which is proved to be within a mere trifle of 8 ft. thick (this coal being considered the champion coal of the district), and the manager reports his intention of shortly commencing to drive his levels right and left, as in the Frogrow seam, when, no doubt, a very large yield of coal (estimated at 1000 to 2000 tons per week) will be the result of this pair of inclines, the engine on the surface being so placed that the tramways down both dips can be worked at one and the same time without any extra winding gear, thus proving the report issued by the directors in the first prospectus of this company of the economical manner these mines could and are now being worked. We are also informed that the whole of the output of these mines can be readily disposed of at highly remunerative prices in the immediate district, but, should that not be the case, an arm of the canal to the Potteries runs within some 200 yards of the property, to which a tramway could easily be laid down, and the wagons emptied into boats at one tip.

At the foot of the dip on the Frogrow, or first seam of coal, a level will be driven to the west, which will, consequently, intersect several other most valuable seams of well-known coals, thus enabling the seams so crossed to be worked up the two dips above mentioned; this we consider a most excellent device, and proving at once that every attention is being paid to the development of these mines on an economical principle.

We are informed that the whole of the shares issued have been taken by the first shareholders, and on enquiries we find that 11. premium per share is demanded and obtained. Looking at the district and the nature of the surface, we cannot praise too highly the engineering skill brought to bear with such satisfaction (and good results must follow) on the property. We venture to predict for the Norton Green Coal Company a most profitable return for their investment. The registered offices of the company are at 88, Portland-street, Manchester.

ENGLISH COAL ABROAD.

There was a large increase last month in the exports of coal from the United Kingdom, the total shipments for June having been 1,429,620 tons, as compared with 1,087,125 tons in June, 1874, and 1,062,612 tons in June, 1873. There was a great expansion in last month's shipments to Germany, France, and Italy. Thus we sent last month 251,732 tons to Germany, against 209,203 tons in June, 1874; to France, 243,457 tons, against 171,196 tons in June, 1874; and to Italy, 108,118 tons, against 56,428 tons in June, 1874. The liberal exports of June slightly changed the character of this year's statistics in respect to our aggregate coal shipments. Thus we exported 6,197,209 tons of coal to June 30 this year, against 5,171,526 tons in the first half of 1874, and 6,018,910 tons in the first half of 1873. France occupies the foremost place among our external coal customers, having taken 1,281,031 tons to June 30 this year, against 1,117,601 tons in the first half of 1874, and 1,172,332 tons in the first half of 1873. Germany has ranked second as a foreign consumer of British coal this year, and Italy must be placed third. It will be seen that France had already taken 1,281,031 tons of coal from us to June 30 this year, or about as much as she formerly imported from us in a whole twelve months. In the whole of 1855, indeed, France took from us only 881,339 tons of coal, while this year's imports—assuming that the second half of 1875 presents similar results—will amount to 2,562,062 tons. This year's imports will thus be nearly three times as large as those of 1855; and it must be admitted, even by French economists, that the avowed policy of NAPOLEON III. to render France independent of her neighbours—and especially of Great Britain—in the matter of her coal supply has thus far resulted in failure. The efforts made by the French Government to increase the indigenous coal production of France have not been altogether unsuccessful, but the coal consumption of the French has expanded in a still more rapid ratio—partly by reason of the increase of wealth, and consequent comfort and luxury, among the population of France, and partly by reason of the vast development of French manufacturing industry during the last 15 or 20 years.

These observations apply in a lesser degree to Germany as well as to France. Germany probably never raised so much coal from her soil as she does at present, but Germany never imported more coal from England than she now receives from our shores. The increase in the consumption of coal which has taken place in Western Europe during the last 20 years is one of the most wonderful features of this wonderful century. Although the surface of European life has been disturbed by revolution and ruffled by war since 1855, wealth has, nevertheless, gone on accumulating, and manufacturing enterprise has expanded in a corresponding ratio. The result is that the consumption has been ever increasing, and however great may have been the efforts made by European coal producers, they have not altogether kept pace with the requirements of European coal consumers, and Great Britain has had to come to the rescue even to a greater extent than ever.

One remarkable feature about our foreign coal trade this year has been the marked decline in prices, and in the consequent aggregate value of the coal which we have exported. Thus the 6,197,209 tons shipped to June 30 this year were officially valued at 4,348,290L, while the 6,171,526 tons exported in the first half of 1874 were priced at a total of 5,823,254L. Perhaps the greater moderation which now characterises our coal markets in the important matter of prices has something to do with the revival in the exports. When our coal becomes a little cheaper our foreign and colonial friends not unnaturally purchase it a little more freely. At any rate, this appears to be a not very unreasonable inference upon the face of the comparison which we have just made.

At the ST. GOTHARD TUNNEL, in Switzerland, the MCKEAN ROCK-DRILL has superseded all other drills. Eight different types and sizes of the McKean Drill are now manufactured, the lightest weighing only 70 lbs. See advertisement in Supplement to this day's issue of Mining Journal.

STEAM-ENGINES.—MR. I. FIELDEN, of Glasgow, has patented an invention the novelty of which consists in making the motive cylinders of reciprocating steam or other motive fluid engines (either of the high or low pressure class) with moving ends, in lieu of the usual fixed bottoms or covers, for the purpose of automatically following up the motion of the piston from each end for some distance, so as to shorten the cylinder on the acting side before admitting the motive fluid, and cause it to act at once with full force on the piston when the crank is at a considerable angle on either side of the dead pump centre line. Various modes may be adopted of fitting the ends of cylinders of engines that they may be moved automatically, by an arrangement of mechanism primarily actuated from the crank shaft or other continuous acting part of the engine. Under one mode a screw with a coarse pitch may be cut on the periphery of the moving ends of the cylinder, and fitted into the ends thereof with a packing ring, so that by turning either end through a stud joint it would be secured into or out of the cylinder as desired, to give the length of motion required by the arm of the lever connected to it by a connecting rod and universal joint. Or these ends might be turned by toothed gearing

or cam mechanism; but when the lever is used it might be of the bell crank form, and have its short arm actuated by a vertical reciprocating rod connected to it above and working in guides below, and having a stud roller on its lower end working in a cam groove fixed on the crank shaft. Steam is admitted, when the end cover has stopped its inward motion, along with the piston, through ports (entering the cylinder at equal distances from its extreme ends) having ordinary valves to steam and cut off and expand to the shortened end of the effective acting stroke of the piston. Instead of the screw for sustaining the reaction of the steam on these moving ends these might be reciprocated by a cam motion direct from the crank shaft, and released by any convenient arrangement of locking and unlocking mechanism acted simultaneously by a separate cam, actuated from any moving part of the engine.

Original Correspondence.

BORING MACHINES—THE DARLINGTON BORER.

SIR,—Having had some experience in using hydraulic machines, and having been present when the Darlington borer was tried in London before the members of the Institution of Mechanical Engineers, and in Falmouth at the Miners' Association meeting last year, I have read with much astonishment the letter signed "Mine Adventurer," in last week's Journal, criticising Mr. Darlington's paper on these subjects. "Mine Adventurer" prefers to transfer the water-power at a pressure of 25 lbs. per inch, instead of 500 lbs. as used by Mr. Darlington at the Wildberg Mines. This is a wide difference of opinion; let us see how it would affect the "pressure" on adventurers' pockets. It is obvious that to obtain satisfactory results with water at an initial pressure of 25 lbs. per square inch at least 20 times more volume will be required than if the water were used at 500 lbs. pressure; the supply main for 25 lbs. pressure must, then, be 20 times the area required for 500 lbs. pressure; in other words, the transit pipes should not be less than 9 in. instead of 2 in. diameter. For the aggregate distance the power is stated to be transferred at the Wildberg Mines (8400 ft.), the cost of material alone for the transfer main would be increased from about 450L for 500 lbs. pressures to about 2600L for 25 lbs. pressures.

The "very costly transfer main" which "Mine Adventurer" asserts 500 lbs. pressure involves, appears to me to be about one-sixth that necessary for his suggested 25 lbs. pressure main, and the same proportion of diminished bulk and cost will follow in the engines where the power is used in the mine, whether for pumping or drawing purposes. If "Mine Adventurer" has ever been underground, and knows the usual size and tortuous line of a level, and the limited space of a winze head, he will appreciate the advantage of a 2-inch pipe overhead instead of a 9-inch pipe, and also of the small size of a drawing-engine at a winze at 500 lbs. pressure, and should learn that where a single kibble must be used a brake is not an "inconvenient or uncontrollable" way of checking the descent of an empty kibble. Having for many years worked machinery with water transferred at pressures as high as 2000 lbs. per inch, I would strongly advise Mr. Darlington to work in future at higher pressures than he appears to have done, where distance of transit is great, and the space where the power is to be employed is limited.

"Mine Adventurer" further says that "the assertion that water at 500 lbs. per inch can be taken more than a mile through 1½-inch tubes with a loss of but 5 per cent. must either be based upon an error, or proves that the experience of all men of science with regard to the friction to be overcome in passing fluids through pipes is worthless, and that Mr. Darlington has discovered a new law." Before writing in this strain it would have been better if "Mine Adventurer" had referred to some elementary work on hydraulics, by which he would have discovered that the friction of water in its passage through pipes depends upon its velocity, and that if that is sufficiently low a friction loss of only 5 per cent. or less may occur. As the velocity is not given by Mr. Darlington, and must be much less than the velocity due to the natural head, it is premature to credit him with the discovery of a new law, as the result given by him is quite possible under the well-known hydraulic conditions.

As to the "Darlington" rock-borer, I have not at hand the notes I took respecting this machine at the trials, but I know that the results were very closely worked out by the engineers present, and, so far from arriving at "Mine Adventurer's" opinion that much of the effective pressure of the air is lost, it was considered that the expansion of the air by cutting off at half-stroke effected a great economy.—London, July 15. FREDK S. KING.

[For remainder of Original Correspondence see this day's Supplement.]

WATER AND COMPRESSED AIR-POWER FOR MINING BY MACHINERY.

It appears that the communication of "Mine Adventurer" in the Supplement to last week's Journal, contains references to the Wildberg hydraulic machinery, based upon the erroneous supposition that the question to be solved was merely to convey power to a distance of a mile horizontally from a given point, where there was a head of water equal to 25 lbs. on the square inch. Had this been so there would have been no difficulty in the matter, but the fact is that the Wildberg Mines are at a greater elevation in the mountains than any of the surrounding country, and the power has really to be taken to a point considerably higher than that at which the 25 lbs. initial pressure is available. The difficulties were by no means trifling. Public roads, across which large pipes or launders were not permitted, existed between the source of the power and the point of its application, and some of the best mining and engineering authorities in Germany have congratulated Mr. Darlington upon the admirable manner in which he surmounted the many obstacles which had to be encountered.

The method of utilising hydraulic power referred to in the paper submitted to the Miners' Association is not expensive. The engines at Wildberg are not costly ones, neither is there a large series of complicated machinery, and the transmission of water at a pressure of 500 lbs. per inch does not necessitate the use of a costly transfer main, on the contrary, the main is a very cheap one. This is explained by the peculiarity of the case. The flanges are not packed in the ordinary way with gutta percha. The pumping and winding engines are undoubtedly also special, but are not complicated, and are inexpensive. The underground winding-engine is also perfectly under control; the kibble is attached to a light wire-rope, and is conveniently dropped by means of a brake.

In the paper referred to the loss of transmitting the power is not positively stated to be 5 per cent., neither is the velocity of water in the pipes given, by which the loss of power can be theoretically calculated. Cheap tubes of large diameter could not be admitted into the level, nor could the power be conveyed and applied direct, as is evident from the details already given. The expense of maintaining the engine is but little. Water, the means of power, is obtained without any cost whatever. The simple problem was not to raise a kibble a mile away; there were other elements in the problem of which "Mine Adventurer" could have no knowledge. The figures 17'05, instead of 17'04, are a misprint.

With regard to "Mine Adventurer's" allusion to rock borers, it should be mentioned that the majority of practical men do not consider that the true test of a rock-drill can be ascertained by running (no work being done) down to the lowest pressure at which it will reciprocate. A piston running at 7½ lbs. per square inch will, if the piston-rod be reduced so as to double the area, run at 3½ lbs. per inch. The efficiency of a rock-borer depends upon no such simple and direct conditions. There is in practice no difficulty about getting or keeping the parts of a valveless borer in correct position. These ought to be less than in borers composed of a greater number of parts.

There is not a loss of 25 per cent. of power by keeping the air continually on the underside of the piston, neither is it accurate to state that the ratio in the single-acting borer is calculated at 4 to 1. Both single and double-acting borers are, moreover, made. The borer is in the hands of French and German engineers, who highly approve of it for its few parts and simple action, and who after a long experience with some other borers have discarded them.

LIGURIA GOLD MINING COMPANY.—A petition for winding-up this company by the Court of Chancery has been presented to the Lord Chancellor by Mr. Arthur Dean, of the Cannon-street Hotel, mining engineer, and Mr. Robert Gillman, of Ashley place, Westminster.

HAYWARD TYLER AND CO'S PATENT "UNIVERSAL" STEAM PUMP.

[STAND 196—ROYAL AGRICULTURAL SOCIETY'S SHOW, TAUNTON.]

The chief feature of novelty in the exhibit of the above firm is a modification of the well-known "Universal" direct-acting steam-pump—the slide-valve being placed on the outside of the steam-cylinder instead of in the inside of the piston, as was formerly the case. The advantages claimed by this arrangement are that the piston takes the whole length of stroke, an ordinary piston being used. The valve can be started from the outside should it have become rusty by standing, and also that the reversal of the slide is exceedingly slow, as in the motion of a crank—slow at the ends, and quick in the centre—thus allowing the valves time to close with ease. The pump at the Taunton show ground is supplied with steam by a vertical boiler, working at 60 lbs. per square inch. The diameter of the steam-cylinder is 10 in.; that of the pump, 7½ in.; stroke, 15 in. When the discharge pipe is reduced to ½ in. by a fire-engine nozzle the gauge shows 80 lbs. on the pump, or equivalent to 187 feet head, the discharge being at the rate of about 15,000 gallons per hour. When working under these conditions the engine and pump are perfectly noiseless, the only sound being the heavy beat of the exhaust steam, similar to that of a locomotive engine when going up a bank; not a sound from the pump, the valves being of an improved form of rubber. The engine, too, is equally noiseless, as in the reversal no tappets or small valves are used. The reversing action is effected by the piston passing over small ports, exactly as the "Universal" is usually made. Hence the great durability of this class of pumps.

We have on former occasions called the attention of our readers to this pump as a most efficient machine, and we think the recent modifications are well worthy of their notice, as the advantages are gained without any sacrifice of simplicity of construction; on the contrary, if anything, its simplicity is rendered more simple in the present arrangement. We hope soon to give illustrations.

Meetings of Public Companies.

GLAISDALE WHINSTONE QUARRY COMPANY.

A special general meeting of shareholders of this company was held yesterday at the Guildhall Tavern, Gresham-street, Mr. J. W. WILLIAMSON in the chair.

Mr. JAMES H. CROFTS (the secretary) having read the notice convening the meeting,

The CHAIRMAN said that he would ask their forbearance, as he was suffering from a severe cold. This meeting was called in consequence of the very small attendance previously, and he could have wished there had been more at this meeting, in order that they might have the views of the shareholders upon the subject. They had long said that they had sold ore and stone, and the difficulty was in getting payments in time to meet the costs, which had been during the management of Mr. Hutchinson something like 50%, or 60%, a fortnight, and latterly the stone had come up very nearly to the amount of the cost; but inasmuch as they did not get the money for the stone in time for the cost, the board had been compelled to borrow or find the money themselves. This was not a right state of things, nor was it what they would always be able to do, because it was not always convenient for the directors to advance the money, and they had come to the conclusion that it was desirable to have a further issue of capital to pay the expenses. Since then the manager, Mr. Hutchinson, for what reason he did not know, had retired. At the last meeting when he took the chair Mr. Hutchinson's account was a most flourishing one, and then, whether or not he had got another appointment in view, he said there was a great deal more work to be done than they expected. Whether it was so or not he could not say, but the result was that Mr. Hutchinson had left and had got another situation. The present manager there was the old manager, Mr. Watson, who was a man possibly sanguine in his views; but if they were to believe his statements, it was as fine a property as they had ever believed it to be. Now he was the superintendent, and he thought that instead of taking away all the top hamper which they had to attack, and which was a very expensive thing, and for which they had a tramway laid down, it would be a saving of expenses, besides getting better quality of stone and easier from the drifts. Mr. Cooke had been down to the quarry recently, and he would tell them the actual position of the concern as seen by himself. He would tell them what could be done in the quarry. The stone was there, and the thing was to get it out. He believed that the manager would have been more successful than he had been, especially after the reports he had given. Mr. Hutchinson was accustomed to other stone, but not to whinstone working. But the floors had been opened right away, and the stone got out; and as they went down deeper they expected the stone would be better. As they got into the hill there was no question that it was better, but at times there were faults in the stone which challenged them. At present they had a great deal of dead to do; but at the same time they were told, and believed, that the ore was there and could be got out sufficiently to pay satisfactorily to the shareholders.

Mr. COOKE said that, as a director and a large shareholder in the concern, he had paid a visit to the quarry last Tuesday, and he hoped that the results of his inspection would tend to satisfy them as to the present position and future prospects of the quarry. He had been very much disappointed with Mr. Hutchinson's management. He had been down several times, and he generally felt that the manager was making good progress at the works. Many improvements had certainly been carried out, which would be of great benefit to them by-and-by, and would save material expenses; but what they had to do now was to look to their present position. As the Chairman had told them, they had almost to get rid of the manager. They found him too extravagant, and not likely to bring the quarry to that state in which they could wish it to be. He had consulted Mr. Watson, the former manager, in whom he had every confidence. He was sorry that Mr. Watson was not present at the meeting, but he would ask them to believe what he said, because he believed that Mr. Watson had their interests at heart. Mr. Watson had written to him as follows:—"Whitby, July 14, 1875. Dear Sir,—I have looked over the quarry carefully, at your request, and feel persuaded that during the last few months it has not been developed with due regard for the future, viz.—the top floors have been worked upon while the very best stone has not been opened up. However, under existing circumstances, I calculate with an outlay of about 300, I could get the quarry so that in two months it would make regular, steady, and gradually increasing profits. I feel certain, from my long experience, that there is ample stone in the royalty to make good yearly returns. The demand for stone is good, and increasing every season.—Yours truly, THOMAS WATSON." He looked upon this as very satisfactory. They did not ask for money to lay out upon the quarry, because Mr. Watson, in his estimate, said that 30% or 40% was quite sufficient. During the next two months they would be raising stone sufficient to pay the cost, with the exception of 20% for laying down additional lines into the drift, and 10% for removing earth and making certain alterations which Mr. Watson deemed desirable. The Chairman explained what this money was for, as they had to wait for two months before they got paid for the stone sent away; it was required for working the quarry. They did not want to spend any more money, and he was sure that Mr. Watson would do what he promised with their 30% or 40%. In the two months, and he felt convinced that, as Mr. Hutchinson had stated in his last report, they would have a dividend before the close of the year. He saw no difficulty himself; he was pleased with the appearance of the quarry. The stone was turning out more solid and better than he had seen it before, and he had been down a good many times. His father had taken up the quarry, and had expended about 4000, on it, so that it was a sufficient guarantee to show that they had faith in the concern. When he took it up he looked upon it as a nice little investment to bring in a regular income. The 5000, required was a very small sum amongst a body of 50 shareholders, some of whom were influential and wealthy men. He was sure, if they took a little more interest in the undertaking, they would not hesitate at all. He would be very pleased if it was in his power to subscribe a further large amount; but, having put so much money in the concern, he could not keep on doing so. He would leave it to them to come forward and subscribe for the shares, and show the country shareholders that they in London took an interest in the undertaking, and came to the help and support of the directors in their endeavours to promote the interests of the shareholders.

A SHAREHOLDER asked if any of the shares offered to the shareholders had been taken up?

The Chairman answered that very few had been taken up. There was a gentleman present at the last meeting who offered to take the whole 5000, and they did not accept his offer then, as they did not consider it would be fair to the other shareholders to accept it. They had seen him since, but he then said he was not in a position to do so. Perhaps some gentlemen would wish for a debenture security, and in that case the property would be mortgaged. He (the Chairman) then explained, in answer to a question, that the purchase money of the quarry was paid in shares.

Mr. COOKE stated that the working capital was 15000, that being all that was

subscribed by the public at the commencement, and the vendors took all the price in shares.

A SHAREHOLDER asked how many tons would be returned per day?

Mr. COOKE replied from 60 to 100 tons per day, the profit on which would be at least 2s. if the men took it on tribute. If they went in as Mr. Watson said he had calculated they would get enough to pay an interim dividend at the rate of 10 per cent.

Mr. FOWLER then proposed, "That a sum not exceeding 5000 be raised on debentures, bearing interest at the rate of 10 per cent. per annum, such debentures to be for the sum of 100, each, and for the period of three years, and to be secured upon the property of the company. Debenture holders to have the option at any time before payment of the debentures of exchanging them for shares of the company at par. Interest will be payable half-yearly."—Mr. VICKERS seconded the motion, which was put to the meeting, and carried unanimously.

With a vote of thanks to the CHAIRMAN, the meeting separated.

[For remainder of Meetings see to-day's Supplement.]

WEST CHIVERTON MINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Several shareholders having called my attention to the remarks on the management of this mine by the writer of the Mining Market article in the Journal of Saturday last, I request, as a matter of simple justice, to be allowed a few lines in reply. First, as regards the frequency of reports, the writer of the article says—"Reports showing the value of the different points of operation and the general state of the mine should be furnished weekly." To this I answer that all alterations in the mine, whether of the nature of a falling off or improvement, are duly reported in the Mining Journal for public information. A full report, giving the value of the different lodes, ore sold, &c., is also published monthly, immediately after each settling day, and this is considered sufficient by the general body of bona fide shareholders.

The next assertion as to the difficulty of getting information on important points is a complete misapprehension, as every information is cheerfully given both by the committee, manager, and myself to bona fide shareholders, at any time, and I challenge anyone to deny it.

The committee considering it requisite in the interest of the shareholders to limit the public inspection days to such times as would least interfere with the duties of the agents, appointed the first and third Tuesdays in every month for that purpose. At these times any shareholder is allowed either to inspect the property himself, or send an agent to do so on his behalf. At the last inspection day four orders were issued, three of them being in favour of Stock Exchange jobbers, who only require reports for market operations, and who, according to the books of the company, held between them 33 shares only. The presumption that the condition of the mine is known weekly, if not daily, to the principal dealers in the shares, and withheld from others, is, to say the least, an assertion not justified by facts.

GRANVILLE SHARP, Secretary.

Gresham Buildings, July 16.

THE TIN TRADE—STATISTICS OF TIN.

COMBINED STOCKS OF FOREIGN TIN FLOATING AND WAREHOUSED.

	1st day of Jan.	Feb.	March	April	May	June	July
Banca in Holland	2895	2895	2895	2895	2895	2895	2895
Straits and Australian in London	2895	2895	2895	2895	2895	2895	2895
Bilition in Holland	988	988	988	988	988	988	988
Total warehoused	8109	9191	9554	9554	10131	9883	9931
Banca afloat	300	70	90	90	708	716	917
Bilition, do.	1580	1727	1118	1210	1035	630	780
Straits, do.	715	360	480	350	714	600	1000
Australian, do.	1300	1500	2000	1900	1150	1100	800

Total floating .. 3895 3857 3858 3850 3405 3048 3477

Total afloat and warehoused 12004 12945 13242 13204 13786 12929 13540

Total stock, July 1, 1874 .. 8298 8916 8577 8477 8903 8714 9487

1873 .. 8646 7224 7543 8387 8596 8490 9064

1872 .. 5901 7128 7472 6601 6396 6825 6790

Deliveries from stocks in London and Holland .. For six months ending June, 1873, 5600 tons; six months ending June, 1874, 6637 tons; six months ending June, 1875, 10,085 tons.

London imports:—For twelve months, 1873, 6712 tons; twelve months, 1874, 8535 tons; six months of 1875, 9445 tons.

Price of Straits tin:—July 1, 1873, 135l. per ton; July 1, 1874, 101l. per ton; July 1, 1875, 83l.—Cullum street, July 2.

SANFORD AND BIRD.

WEST CHIVERTON has been the most successful mine in the district since the cessation of profits from East Wheal Rose. Large quantities of ore have been returned of various qualities, as follows:—

1st quality .. 77 per cent. lead .. 24.6 ozs. silver per ton of ore.

2nd .. 71 .. 19.4 ..

3rd .. 50 .. 16.0 ..

4th .. 42½ .. 12.5 ..

The following is an account of minerals sold from West Chiverton Lead Mine since the mine has been working by the present company—from April 1, 1863, to the end of June, 1874. There has been sold:—

Lead ore .. Tons 36,453 .. (realising) £527,323

Blende .. 4,219 .. 9,845

Copper .. 34 .. 211=£537,379

There has been paid during the same period for

Labour cost .. £241,087

Merchants' bills .. 102,969

Dues .. 35,923= 379,879

Leaving for dividends .. £157,500

Thus this valuable lead mine divided 137,500l. in about 10 years, during the working of the present company. The mines in this district greatly exceed the average silver produce of the United Kingdom. The percentage of lead is not, however, remarkably high when compared with such mines as Roman Gravel and Tankerville, which frequently return lead ore of the highest quality, averaging from 82.5 per cent. to 85 per cent. lead. Other mines in the neighbourhood have yielded ore of the various qualities as under:—

Per cent. lead. Silver per ton of ore.

Chiverton Moor .. 69½ .. 11 ozs.

New Chiverton (1st) .. 69½ .. 11 ..

Ditto (2nd) .. 44½ .. 24½ ..

Great South Chiverton (1st) .. 80 .. 24½ ..

Ditto (2nd) .. 48½ .. 24½ ..

West Chiverton shares, a few months since were sold at 30s. and 40s. each—at the price of 6000l. only for the mine; last week the shares touched 25l. each—75,000l. for the mine, a rise of nearly 70,000l. in the course of four or five months.

THE TIN STANDARDS.—On Thursday last the standards were reduced 2s. all round, and there is an intimation that this must necessarily be followed by several other drops. It is evident that tin ore, which realised 52l. a ton a fortnight ago, can only now secure 49l. The present standards are:—Superior common, 78s.; superior fine, 80s. The smelters' quotations for the metal are:—Common, 88s.; margin, 10s.; refined, 90s.; margin, 10s. Current prices:—Banca, 83s.; Straits, 78s.; Australian, 75½s.

WHEAL WREY, LUDCOTT, AND NORTH TRELAUNY.—A meeting of the shareholders was held at Liskeard on Tuesday, for the purpose of considering the advisability of having the company wound up. Mr. John Sobey was voted to the chair. Some of the representatives of the directors were present. Mr. Allen, the proposed purser of the mine, having issued a circular pointing out the expense of winding up, and advising none of the supporters to attend, the Chairman remarked that many who had agreed to take shares considered that they had been taken advantage of unduly by the local promoter. The directors had proceeded to allotment without any consultation with the shareholders. The Articles of Association, it was understood, were not to be signed unless 3000l. worth of shares were taken up at Liskeard, and the remaining 27,000l. worth in London. At Liskeard over the specified amount was raised, but in London only 3700l. worth were taken up. The names of the London shareholders had not been disclosed. The registered shareholders were thus in this serious position—they were subject to the call of the directors. The opinion of Mr. Chilcott, of Truro, had been obtained in the matter, but whilst there were nearly 800 shares represented at the meeting for winding up, he reminded them that if they went to law and did not succeed they would have to pay costs. Still he advised an application to the Stannaries Court. Mr. Hodge proposed that proceedings be taken to wind up the company, and Mr. Cooke seconded the motion. Mr. Hicks asked who would bear the expense of this? The meeting was a one-sided one. (No, no.) After much discussion, the motion was carried unanimously. Mr. Colmer remarking that the mine need not be wound up if the promoters could show that they had sufficient capital subscribed to develop the property properly. A committee, consisting of Messrs. M. W. Bowden, Thomas White, Nicholls, Alinge, and M. Daniel was then appointed to consult with Mr. Chilcott upon the subject. Mr. Chilcott's letter is as follows:—"I saw seeing you yesterday I have read and considered the various papers you left with me, and have seen the Articles of Association. It seems clear that the majority of the signatures to the Articles of Association were obtained by false representations of the promoter, and probably some of the parties deceived will endeavour to make him answerable in damages, though this bad conduct of the promoter will not be sufficient ground for winding up the company. But I find from the prospectus that the capital of the company was 40,000l., in 40,000 shares of 1l. each, and giving 10,000l. in free shares to the promoter. It was considered that the remaining 30,000l. would be required to work the mines. Finding these required 30,000 shares not subscribed for, it was proposed to try to start with only 20,000l. But the result of all the efforts in London and the country is that less than 8000 shares are subscribed for. Assuming that the above figures are pretty nearly correct, it is clearly useless to attempt to work these old deep mines with such insufficient capital, and I think it is probable, though not certain, that the Vice-Warden would make an order to wind up the mines. I recommend a petition being filed to wind up the mines, as I is the only means of avoiding the payment of the full 1l. per share."

CORNISH MINE SHARE MARKET.—The Share Market during the past week has been exceedingly dull and depressed, and little business has been done, and prices of most shares have given way, and in several instances without a transaction. Still there are mines not so badly off; several there are which pay dividend at present low prices. Witness East Pool, which re-entered the Dividend List on

Monday, after paying off a heavy debt; also Penhalls and South Condurrow, which both paid dividends during the previous week. The following are the closing prices:—Carn Breas have declined to 38, 39. Cook's Kitchen has fallen to 4, 5 from 5½ to 6. Dolcoath quiet, 39 to 41. East Lode, 7½ to 8. East Pool, 13½ to 14 (ex div.); at the meeting, on Monday, a dividend of 2s. 6d. per share was declared, and a very encouraging report was presented. South Carn Breas, which advanced from 22s. to 24s. to 40s., after fluctuating, close flat at 34s. 30s. South Crofts have declined to 16½, 16½ from 17, 17½. Providence, in the absence of business, are still quoted 3 to 3½, and Rosewall Hill at 3s. to 3½, but there is nothing doing in either. Tincrofts flat, 18 to 20. West Bassett are also weaker, 4 to 4½. West Frances, 6½ to 7. West Tolgus keep steady at 4½ to 4½. Wheal Kitty (St. Agnes), 3 to 3½. Wheal Jane, 3 to 3½. West Beton nothing doing, price unknown. South Condurrow not quite so good, 4½ to 5; a rather startling statement was made at the meeting—that under the old management 211 men employed underground and driving three ends raised only 1280 tons of tinstuff per month; now 107 men underground and driving nine ends raise 1485 tons per month under the present management; we should like to have Capt. Vivian's explanation of this, as we believed an explanation is required. Wheal Peewors, 2½ to 2½. Stormy meetings have been held respecting Wheal Ludcott new venture, and the grant of 10,000l. worth of free shares to the promoters does not go down in Cornwall.—West Briton.

THE BRITISH CHEMICAL TRADE—ITS PAST, PRESENT, AND FUTURE—No. IV.

In the whole history of statistics there is probably nothing more startling, as we have before indicated, than the growth of the Alkali Trade of the United Kingdom. We shall here present our readers with such figures as are available touching this branch of our subject. Fortunately, there is no lack of materials to illustrate the graduated development of the alkali trade. For many years an Alkali Manufacturers' Association, embracing nearly all the manufacturers in Lancashire and the North of England, gave a great deal of attention to the collection of accurate and complete statistics on the subject of chemical progress; and, although the reports of this association were not of a public character—being, in fact, intended only for the use and perusal of its members—we have been furnished with much of the information which they afford. The quantities and prices of the raw materials used in the alkali trade of the Tyne was estimated in 1862 as follows:—

	Tons.	Price.	Value.
Pyrites	72,800	£1 10 0	£102,200 0 0
Salt	90,000	0 15 0	87,500 0 0
Nitrate of soda	2,500	14 15 0	36,875 0 0
Chalk	144,000	0 2 6	18,000 0 0
Manganese	11,500	4 0 0	45,600 0 0
Rough Epsom salts	1,500	3 5 0	3,375 0 0
Magnesian limestone	7,000	0 4 6	122 10 0
French limestone	14,000	0 4 6	3,150 0 0

For the same year the quantities and prices of the finished products of the chemical works on the Tyne were returned as follows:—

	Tons.	Price.	Value.
Alkali	43,500	£3 10 0	£130,750 0 0
Crystals of soda	61,300	4 15 0	226,075 0 0
Bi-carbonate of soda	7,450	12 0 0	89,400 0 0
Caustic soda	580	18 0 0	10,440 0 0
Hypo-sulphate of soda	400	25 0 0	10,000 0 0
Oil of vitriol	6,440	6 0 0	38,640 0 0
Epsom salts	1,500	7 5 0	10,875 0 0
Vanadate red	11,200	6 0 0	67,200 0 0
Bleaching powder	6,000	18 0 0	108,000 0 0
Soap	105	1s. per lb.	204,000 0 0
Red	40	28s. 6d.	11,760 0 0
Alum	4,000	27 0 0	28,000 0 0
Carbonate of magnesia	250	30 0 0	7,500 0 0
Superphosphate of lime	15,000	5 0 0	75,000 0 0
Pearl hardener	2,000	10 0 0	20,000 0 0
Sulphate of iron	2,000	3 0 0	6,000 0 0
Vanadate red	4,000	5 0 0	20,000 0 0
Sulphate of copper	100	35 0 0	3,500 0 0
Resin size	100	7 0 0	700 0 0
Lamp black	1,200	7 0 0	8,400 0 0
Grease	2,800	8 0 0	22,400 0 0
Cements	12,000	2 0 0	24,000 0 0
Chemical products of gas works	—	—	139,180 0 0

Totals .. £175,955 .. £1,455,220 0 0

Many of the manufactured products included in the above list, although undoubtedly entitled to rank as part and parcel of the chemical trade, are not produced at the alkali works proper, and they appear in the above form solely because it was considered more convenient for the use of the British Association, to whom the figures were submitted on the occasion of their Newcastle meeting in 1863. There are other minor products respecting which no accurate figures are available—such, for example, as coppers, the manufacture of which was commenced at Hartley in 1748, and at Walker in 1770. The soap trade was established on the Tyne so far back as 1770, when works were commenced in Westgate, Newcastle, by Messrs. Lamb and Walde. At that time soap-makers were supplied with alkali from Spanish Barilla, Russian potashes, and Scotch kelp. The latter varied in strength from 1½ to 6 per cent. of alkali, and the Barilla averaged 25 per cent. It is interesting to notice that from the first production of kelp in Scotland in 1730 to the end of the last century its price gradually advanced from 2d. 5s. to 11l., the price of Barilla being about 45l. per ton. These prices are considered to be equal to a ton of soda ash, which is at present worth 7l. to 8l. The manufacture of soap is still pursued on the Tyne to a considerable extent; but it is, of course, kept distinct from the alkali trade proper, with which we are now mainly concerned. The statistical report of the alkali trade for the year 1866 is the last named under the auspices of the Alkali Manufacturers' Association already alluded to. This association confirmed 20 manufacturers in Lancashire, and the production of six others has been estimated. In 1866 the quantity of salt decomposed by the 26 members of the Lancashire branch was estimated at 194,000 tons, and that of the Tyne branch during the same period was 157,000 tons—making together 351,000 tons. As the total quantity of salt used in the manufacture of alkali in this year was returned by the alkali inspector at 371,000 tons, the association represented 95 per cent. of the trade. In addition to the articles enumerated in the following list, the alkali manufacturers of Lancashire produced in 1866 considerable quantities of chloride of potash, Epsom salts, Glauber salts, and sulphate of copper, of which no return was obtained, and it was estimated that if these were included the total value of the production of the alkali works of Lancashire would considerably exceed 2,000,000l. per annum:—

	Quantity returned.	Price.	Total amount.
Soda crystals	Tons 24,978	25 0 0	£624,950 0 0
Soda ash and refined alkali	87,314	11 0 0	960,454 0 0
Caustic soda	11,213	20 0 0	224,260 0 0
Bi-carbonate of soda	6,457	18 0 0	116,226 0 0
Sulphate of soda	32,127	4 5 0	144,571 0 0
Bleaching powder	20,000	14 0 0	280,000 0 0
Bleach liquor	5,371	3 0 0	16,113 0 0

Oil of vitriol (for sale) .. 18,592 .. 6 0 0 .. 111,552 0 0

Muriatic acid (for sale) .. 13,819 .. 0 15 0 .. 10,364 0 0

Total .. Tons 220,387 .. Total value .. £2,006,923 0 0

In the same year the Tyne branch of the association—comprising all the manufacturers on the Tyne—produced the following quantities of finished alkaline products:—

	Tons	Price.	Value.
Soda crystals	86,000	£5 10 0	£473,000 0 0
Soda ash or alkali	74,000	11 0 0	814,000 0 0
Bi-carbonate of soda	11,000	18 0 0	198,000 0 0
Sulphate of soda	2,400	14 0 0	33,600 0 0
Bleaching powder	2,500	14 0 0	35,000 0 0
Epsom salts	590	8 0 0	4,720 0 0
Caustic soda, 70 per cent.	3,720	26 0 0	96,720 0 0
Glauber salts	20	6 15 0	1,260 0 0
Oil of vitriol (for sale)	9,000	4 0 0	36,000 0 0</

of raw materials used at 936,000 tons, of the aggregate value of 833,427, exclusive of all materials used for buildings, plant, and repairs; and, seeing that the destructive effects of the acids and gases employed involves the necessity of constant renewals of plant, the materials consumed under this head will be considerable.

Since 1866 the chemical trade of the Tyne has made less progress than it did in any corresponding period during the previous 30 years. Mr. Richard Cail, the hon. sec. of the Tyne alkali trade, has estimated that the principal products of the chemical works of the Tyne in 1874 are approximately as follows, although no exact statistics on the subject have been collected since those above quoted:—

Soda crystals	Tons	86,000
Soda ash	Tons	74,000
Alkali	Tons	11,000
Bit-carbonate of soda	Tons	200
Sulphate of copper	Tons	2,400
Sulphate of soda (for sale)	Tons	27,000
Bleaching powder	Tons	3,750
Castile soda	Tons	50
Esson salts	Tons	20
Glauber's salts	Tons	9,000
Oil of vitriol (for sale)	Tons	400
Hypo sulphite of soda	Tons	700
Muriatic acid (for sale)	Tons	2,000=217,030
Chloride of manganese	Tons	2,000=217,030

The raw materials used in the production of the above articles afforded employment to the shipping trade to the following extent:—

Inwards (very little shipped)	Tons	800,000=1,422,000
Outwards (including packages)	Tons	382,000
Total	Tons	1,804,000

Value of raw materials	£1,600,000
Computed value of manufactured goods	2,680,000
Weight manufactured	Tons 382,000
Weight carried in all by sea and rail	2,186,000

The most recent statistics available with reference to the alkali trade of Lancashire show the value of the raw materials to amount to 869,000, and of the manufactured articles to be 1,883,779. The totals for the whole of England appear, therefore, to be as follows:—Value of raw materials, 1,700,525; value of manufactured products, 3,813,604; amount of capital employed, 5,000,000.

As nearly as can be ascertained, the following are the dates at which the older alkali works on the Tyne were begun:—

Name of projector.	Place.	Date.
Mr. W. Losh, and others	Walker	1796
Mr. W. Doublay and Easterly	Bell Quay	1808
Dr. Hutchinson	Felling	1809
Messrs. Cookson	Jarrow	1823
Mr. J. Allen	Felling	1828
Mr. C. Attwood	South Shore	1830
Mr. A. Clapham	Friar's Goose	1831
Mr. H. L. Pattinson	Felling	1833
Mr. T. Bell	Jarrow	1836
Mr. R. Meary	Jarrow	1839

RATING PUBLIC COMPANIES' PROPERTY.

Although the principle of rating the property of public companies has recently been much simplified, the necessity for reliable professional guidance continues, since the almost innumerable points to be considered in determining the rateable value still exercise the same influence on the amount of the rate, which is of as much importance as ever to those who have to pay it. The volume* just issued by Mr. J. Balfour Browne, of the Middle Temple and Midland Circuit, brings together in a very convenient form such particulars bearing upon the subject as are necessary to permit of a correct judgment being formed upon any question likely to arise. It is a thoroughly comprehensive treatise upon the law of rating in relation to railway, water, gas, and other companies. He mentions the fact that the same very important cases have been decided in the Court of Queen's Bench, and that the Railway Commissioners have given important judgments in two cases in which railway companies appeared to him as arbitrators, pointed to the necessity of a re-statement of many of the legal propositions in relation to rating, and a further treatment of some points which had been raised in connection with these more recent authorities. Mr. Browne asserts, with considerable truth, that there are few questions of greater practical importance, few which it is more necessary to find a satisfactory answer for than that as to the causes and cure of poverty. He maintains the necessity of a poor law upon the grounds that without it the poor would be at the mercy of the rich and the rich at the mercy of the poor, and remarks that "if the rich are at the mercy of the starving poor it becomes a matter of policy to feed them." He then goes on to say that ever since the feudal system, under which it was the duty and interest of the lord to maintain and protect his dependents under adverse circumstances, has fallen into disrepute, ever since the labour market has fallen under the influence of free trade, and labour and capital met on the ordinary terms of demand and supply, the necessity for legislative interference has been felt.

Mr. Browne's historical sketch of poor law legislation is particularly interesting. In 1576 complaint was made by the Commons of the multitude of beggars and sturdy vagrants that infested the cities and boroughs, and led to various statutes, with a view to checking, if possible, the growing evil, by punishing idle vagabondage, and affording relief to the deserving poor. Mendicancy and vagrancy had increased to a very great extent, owing to certain political events, and these evils were not unassociated with flagrant ruffianism and brutal outrage. That this was so is evident from the fact that it was found necessary to have stocks in every village for the punishment of "valiant beggars." Thus such enactments as that of 1576 were necessitated not by the mere eleemosynary character of the population, but by the violence to which their needs and wants drove them. By that Act vagrants "whole and mighty in body" caught begging for the first time might be whipped at the cart-tail, the second time their ears were to be slit, and by the Act of 1591 if caught a third time they were to be put to death. Property was insecure, the development of industry was checked, and the accumulation of capital was discouraged. As a mere question of police an efficient poor law was called for. It was under these circumstances that the 43 Eliz., c. 2, was passed, and an honest endeavour was made to mitigate as far as possible the evils which existed; it had two objects—first, it provided for the medical relief of the sick or disabled where that burden properly falls upon the State; and, secondly, for the employment of those able-bodied poor persons who are, through the consequences of circumstances, unable to find work for themselves, and who under such circumstances are only too apt to pass from the pauper into the criminal class. Mr. Browne very justly regards the statute as having been crowned with success.

After explaining that a Government should secure the equality of taxation, which is in reality equality of sacrifice, equality of service directly in direct, and which is the ability of the person taxed to contribute to the impost, whence it came that the statute in question provided that the raising of sums of money for the relief of the poor in each parish should be in relation to the ability of the person assessed. Mr. Browne remarks that it is not to be doubted that corporations and companies as they at present exist in this country are, in so far as ability is concerned, in a position to be taxed to the relief of the poor. More and more in modern times have men discovered the strength of union, and the increased capacity of wealth in aggregation to cause their power in the general question of taxation in arithmetical relation you increase their power in geometrical progression. The truth of this proposition is amply proved by the facts of co-operation of combination and of company undertakings, of which we have had experience in recent times. No age has seen so much united action in relation to commercial and industrial enterprise, and no period has had such huge bankers' balances. We have a right to look at the railways in this country to get some idea of the gigantic proportions of combined enterprise and of the vast influence which is exercised by the united money of many when used as the purse of one. There is very little individual action in relation to the power days, and what little does exist is merged, and too feeble to compete efficiently with corporate resources. So great and so powerful have some of these corporations become through this strong union and community of purpose that Government has had to interfere with a view to the regulation of them, and to securing the benefits of some wise restraint over companies which have a tendency to become too arbitrary, and to lose sight of the interest of the public, of which Government is the trustee.

But although companies are bound to contribute to the relief of the poor, Mr. Browne has to point out the difficulties which arise in the rating of companies, and the causes of these difficulties. Having dealt with the general question of rateable value, he treats in separate chapters of railway rating, canal rating, the rating of waterworks, gas companies and the rating of their property and works, the rating of docks and harbours, of mines and quarries, and of bridges, cemetery and the rating of ferries, the rating of ferries and wayleaves, and the rating of tramways. In the chapter on the rating of mines and quarries in the occupation of companies there is an outline of the law as it stood before the recent statute which will be of considerable practical value when future cases are under consideration. The new Act provides for the rateability of mines, and also for the valuation of these properties. The seventh section enacts that "where a tin, lead, or copper mine is occupied under a lease or leases granted without fine on a reservation wholly or partly of dues or rent, the gross value of the mine shall be taken to be the annual amount of the whole of the dues payable in respect thereof during the year ending Dec. 31 preceding the date at which the valuation list is made, in addition to the annual amount of any fixed rent reserved for the same which may not be paid or satisfied by such dues. The rateable annual value of such mine shall be the same as the gross value thereof, except that where the person receiving the rent is liable for repairs, insurance, or other expenses necessary to maintain the mine in a state to command the annual amount of dues or rent from the average annual cost of the expenses for which he is liable shall be deducted from the gross value for the purpose of calculating the rateable value." Where the mine is occupied under a lease granted wholly or partly on a fine, where the mine is occupied and worked by the owner, and in case of any mine not excepted from the Act, and in circumstances which the foregoing provisions do not apply, "the gross and rateable annual value of the mine shall be taken to be the annual amount of the dues or dues and rent at the ordinary rate might reasonably be expected to let, without fine, on a lease of the ordinary duration, according to the usage of the country, if the tenant undertook to pay all tenants' rates and taxes and title rent, and also the repairs, insurance, and other expenses necessary to maintain the mine in a state to command such annual amount of dues, or dues and rent."

Throughout the volume Mr. Browne has been particularly explicit.

* "The Principles of the Law of Rating of Hereditaments in the Occupation of Companies." By J. H. BALFOUR BROWNE, Barrister-at-Law. London: Stevens and Haynes, Bell-yard, Temple Bar.

and his arguments appear to be very free from bias, which is a great deal to say with regard to a treatise upon a subject upon which very decided and directly antagonistic views are too frequently maintained. He has produced a work which, although sufficiently popular to be used as a guide by public company officials and parochial authorities entrusted with the rating of property of the class treated of, has the merit of being so accurate technically that it will be of the utmost utility to the profession.

PYROLOGY, OR FIRE CHEMISTRY.

Although Major Ross's really elegant and beautifully printed volume* bears this unassuming title, it is in truth an elaborate treatise on Psychological Lithogegnesia, and cannot fail to be highly appreciated by all who are wise enough to accept as an axiom the Major's pithy statement, that "the fact is 'pure,' logical, and mathematical abstractions, however precise and exact they may seem, lead us to nothing; or, what is worse than nothing, 'unthinkable' results and religious scepticism. It may be fairly said of 'pure' mathematicians and metaphysicians—to paraphrase an old saw—'Small doubts breed greater doubts, and greater doubts to frighten'; these doubts breed greater doubts, and so ad infinitum." But it must not be supposed that Major Ross ignores important truths, for he states that the practice of the arts when pursued with sufficient intelligence has often supplied us with new trains of ideas from which distinct branches of science have also sprung; and in this connection he mentions the curious fact that the recently re-discovered process of toughening glass by simply annealing it from red-heat in oil was anticipated by a century and a half. "Stephen Hales describes a precisely similar process in 'Vegetable Statics,' London, 1727, p. 185." Science, he says, is theoretical art, practical science, and the attempt to separate these two, and to inculcate what is called "pure science" (so called, he presumes, on account of its barrenness), which seems as common to day as in the time of Socrates and Plato, can be proved to have the most disastrous effects, for the commonest art, even when practised by ignorant and unobserving people, often give rise to philosophical questions which mathematics or metaphysics alone are hopelessly helpless to answer.

Yet that Major Ross is well acquainted with mathematics is obvious, for he remarks that so far as mathematics cannot be denied to be a medium of the translation of thought from one mind to another to such an extent that they may be assumed to be essentially a language; although one of symbols, just as a speech may be stenographically expressed, he considers that the essential part of the science is undeniably algebra, or the use of algebraical signs, symbols, and mode of reasoning, and that the algebraical mode of reasoning requires chiefly dexterity in manipulation on the part of the operator, and the most absolute attention (which is only another name for memory) to technical data and first obtained results. It may be termed, he thinks, a sleight of mind—a kind of mental conjuring—rather than a medium of employment for the whole intellectual capacity. He tells us, too, that "if a single term be mis-transposed, or a coefficient misapplied, an utter smash of reasoning is the result, and his work becomes a mere mass of gibberish." Entertaining these views of mathematics, it is not surprising to find that he remarks that it is difficult to understand how under such conditions the study of mathematics can be, as it is universally admitted, the best means of strengthening the mind. We are living, to use the Major's expression, in "the age of thought-prigging," and if the number of thoughts enunciated created danger he would certainly be liable to be pilfered, but it may be hoped that the value of those thoughts would secure him ample protection. Major Ross is evidently a deep thinker, for in the time which has elapsed since the work went to press he has thought of matters which have been too carelessly omitted from its pages. For instance, that aluminium, which he has found fusible (or rather to droop as the gunners call it) before the pyrolyne in the inverse proportion to its bulk, would thus form an excellent pyrolyne, or, as it is called, its extreme lightness, he most useful in the quantitative determination of the sublimates; that the beautiful orange-red light which can be obtained from lime without decreasing the weight of this could, probably, be cheaply made permanent, and at the same time splendidly luminous, by simply placing the fragment of lime in an electric arc synchronously with its emission; that a charming violet or lake pigment is obtained by simply heating before the pyrolyne (a term which the author regards as equivalent to blowpipe) cobalt oxide in about 10 times its weight of boracic acid, extracting the cobalt by means of water and grinding it to fine powder; that glass could probably be coloured with a violet that superior in beauty to that of the purple of Cassius by fusing silica with cobalt pyroxide and a very small proportion of soda or potash in the flame of an oxyhydrogen blowpipe; that tin fused on aluminium plate and suddenly quenched with cold water becomes as tough as zinc, while it retains its malleability and beautiful whiteness, &c. He is so sanguine as to hope, in fact, that there is matter in his book for 20 patents, and had he lived under any other than the English Patent Law, which recognises unprincipled improvements rather than original inventions, he would, in justice to his own family, have patented and sold them.

The work itself is an elaborate treatise on blowpipe analysis and various cognate subjects, and contains many most curious and interesting statements. Major Ross explains that the analysis and synthesis of things is, next to religion, the most important subject which can occupy the human mind. It is, in fact, the investigation of material truth with such aids as the Great Creator has vouchsafed us. It is not necessary in order to stimulate the peculiar action of the brain required for this purpose that the subject of analysis should be material. Precisely the same operations of the mind are necessary to analyse a murder or a miracle as a mineral; a military adversary's plan of campaign, as a calculus problem; only in the first or incorporeal cases the analyst and synthesist generally have some recognised facts as clues upon which to proceed; in the second, no fact is given beyond the existence of a material compound substance. The general, the detective, or logician deduces probabilities from facts; the chemist, the spectroscopist, the physicist or the pyrologist has first to elicit facts (which he calls reactions), from which also probabilities are concluded. The advantage thus, although at first sight the contrary is apparent, is on the side of the analyst of incorporeal cases, for he has his facts ready made, whereas in producing his facts by means of reagents is liable to be led by a thousand errors or suppositions, and finally to make such erroneous conclusions from undeniable facts as will lead him more astray than if those facts had been primarily absent. In his treatment of the subject Major Ross has introduced several new symbols which are valuable in facilitating abbreviation, and claims new acceptations for words previously in common use with other meanings. Essay, for instance, means a qualitative or indicating examination; whilst assay means a quantitative or determining examination; crystallization, the crystallisation of substances cooling from fusion by the direct application of fire to a bead, the fusing of a glass, the smallest amount of flux fusible on a platinum wire ring of given diameter; pyrolyne, a flame of conical shape; pyrochrome, a non-luminous flame tinged with colour; and pyrochrome, a blowpipe. In the same way HB combined, with three oxygen dots is used for fused boracic acid; HP combined, with five oxygen dots fused phosphoric acid; H.P., O.P., P.P., and E.P. the hydrocarbonous, oxyhydrogen, peroxidising, and ellychene pyrolynes respectively.

Among the novelties which Major Ross describes is a spectrum lognette, or pair of spectacles, which he has devised, and which fits the head like spectacles, so that the operator can, synchronously, note the spectra of pyrolynes or pyrochromes while he is producing them. The barrels or spectracles are made of blackened brass and looped together by two padded bridges of brass, one of which fits on the nose; there are the usual arms for holding the spectracles to the head, the ends being connected with a piece of elastic. With reference to the aluminium plate and spoon, he states that they are quite indispensable, the first is used as a tray under the lamp or candle, and has the advantage over iron or other substances that the red-hot bead when dropped upon it is cooled so rapidly that it solidifies before it has time to adhere or attach to the surface of the metal, and can consequently be instantaneously taken up unaltered and analysed upon the red-hot platinum sheet. Sheet zinc highly burnished answers the purpose well, but not so well. Aluminium as a support should consist of a rectangular strip of plate not less than 4 in. by 2 in., and about 1-32 of an inch thick, half an inch of the lower end of which should be turned up on a table at an angle of 80° as a lip or rest for the substance, and a space of 1/8 in. both above and below the angle burnished bright with the handle of a small ivory paper-knife rubbed smartly over it with a drop of water, or better of sweet oil. Such a piece of aluminium was purchased by Messrs. Johnson and Matthey for £s. (although another firm demanded 36s.) more than a year since, upon which he has fused arsenates, arsenides, sulphides, antimonides, tellurides, gold and silver alloys, &c., and it is as good now as the day he got it. The economy of this support, even as compared with charcoal, will not be doubted. He made a spoon out of a piece of aluminium wire 6 in. long, and about 1-10th of an inch diameter (also purchased for a shilling) by first hammering out the ends, and then punching shallow cavities in them.

The Pyrological Indicating Chart will be found of considerable value to those following Major Ross's system of determination; and he satisfactorily shows that the many vacant spaces are really an improvement upon the usual method of constant repetition followed in other blowpipe tables. The chart gives 14 columns instead of five or six, as usual; but he points out that in the five columns an account of the same or extremely similar reactions in borax, microcosmic salt, &c., of different substances, is repeated so often that those utterly false to be characteristic, or to afford any really useful indication of the oxide sought. In his table, on the contrary, what is called the behaviour (or what are, in fact, uncharacteristic reactions) is not given simply because it is the behaviour of the oxide under different treatment; a really enormous element of confusion and inutilty is thus evidently eliminated from the tabular view, while the alphabetical arrangement which he has adopted will be recognised as necessary for a tabular composition intended chiefly for rapid reference. As an instance, he refers to the detection of potash. He remarks that Plattner says "It colours the point of the blue flame violet," but adds "a very small trace of soda hinders this reaction," and this is all! In Major Ross's table there are given five extremely characteristic and quite different reactions for potash, any one of which, therefore, may be made confirmatory of another. But, he continues, it may be said that potash is an unfair oxide to select, as there were no really trustworthy tests for it; let us, therefore, select nickel, usually supposed one of the easiest oxides detectable by the blowpipe. After hunting out the name by mere force of turning over pages, we perceive that the only indication there given of this oxide is the "reddish-yellow" colour it affords in both the fluxes used—a test utterly useless in the presence of cobalt, copper, and many other oxides—and its reduction to a metallic magnetic state, which, though but a vague characteristic, is four times repeated. By Major Ross's table nickel oxide is at once detected in presence of anything by the reactions with boracic acid; in the oxyhydrogen flame it gives green fragments, and in the hydrocarbonous pyrolyne it gives metallic fragments, while two other confirmatories are given.

The mass of really valuable information given in the volume is enormous, and although it is so intermingled with statements of the most curious character, and which appear to have but little connection with the subject, it will not be difficult for those who understand blow-pipe analysis to separate the wheat from the straw.

* "Pyrology, or Fire Chemistry; a Science interesting to the General Philosopher, and an Art of Infinite Importance to the Chemist, Mineralogist, Metallurgist, Geologist, Engineer, and the Mining, Civil, and Military." &c. By WILLIAM ALEXANDER ROSS, lately a Major in the Royal Artillery. London: E. and F. N. Spon, Charing Cross.

Major Ross has evidently bestowed a large amount of labour upon the work, and the manner in which it has been printed and illustrated shows that no expense has been spared in its production. It is a volume which will doubtless be quoted from hereafter, since it cannot be questioned that it contains the germ of many brilliant ideas and suggestions, and has, moreover, the merit of considerable originality and much utility.

THE SUBTERRANEAN WORLD.

The scientific accuracy yet popular and scientific character of Dr. Hartwig's Subterranean World secured for the first edition a highly favourable reception in 1872, and that the third edition* has been reached within three years may fairly be accepted as an evidence that the interest felt in the work has been lasting. There are a vast number of readers who are anxious to acquire a certain amount of knowledge connected with a science, yet are disinclined to undertake the usually dry task of studying, and it is for this class that Dr. Hartwig has especially written. Having already furnished attractive descriptions of the Sea and its Living Wonders, the Tropical World, the Polar World, and the Aerial World, it is not surprising that he is enabled to tell us that the dark regions underground likewise contain much that is remarkable or beautiful, and are the seats of gigantic operations, which are sometimes beneficent and sometimes disastrous to mankind. The aim of the present work has been to describe the wonders of this hidden world in their various relations to man, and to point out the methods he employs to make its treasures subservient to its wants.

To enable the reader readily to comprehend the various subjects treated of, the volume commences with a sketch of geological revolutions, it being remarked that geology teaches us that from times of the remotest of which the human mind can form no conception, the surface of the earth has been the scene of perpetual change, resulting from the action and counteraction of two mighty agents—water and subterranean heat. Ever since the first separation between the dry land and the sea took place the breakers of a turbulent ocean, the tides and currents, the torrents and rivers, the expansive power of ice, which is able to split the hardest rock, and the grinding forces of the glacier, have been constantly wearing away the coasts and the mountains, and transporting the spoils of continents and islands from a higher to a lower level. During our short historical period of 3000 or 4000 years the waters, in spite of their restless activity, and the considerable local changes effected by their means, have indeed produced no marked alteration in the great outline of the sea and land; but when we consider that their influence has extended over countless ages we can no longer wonder at the enormous thickness of the stratified rocks of aqueous origin which, superposed one above the other in successive layers, constitute by far the greater part of the earth's crust. Our knowledge of these sedimentary formations is indeed as yet but incomplete, for large portions of the surface of the globe have never yet been scientifically explored; but a careful examination and comparison of the various strata composing the rocky foundations of numerous countries have already enabled the geologist to classify them into chronological systems, or groups, which the Doctor gives, accompanied by a tabular geological profile, giving illustrations of the various strata and of the characteristic fossils found in them. He explains that had the levelling power of water never met with an antagonist force, there can be no doubt that the last remains of the dry land, supposing it could ever have risen above the ocean, must long since have been swept into the sea. While water has been constantly tending to reduce the irregularities of the earth's surface to one dull level, the expansive force of subterranean heat has been no less unceasingly active in restoring the unevenness of the external crust by the ejection or protrusion of new masses of stone (porphyry, trachyte, basalt, lava, &c.), and by the consequent disturbance of the stratified rocks.

Besides the more paroxysmal and violent revolutions which are the result of the action of subterranean fire, it is found, Dr. Hartwig explains, that the earth's crust has at all times been subject to slow oscillatory movements of upheaval and subsidence, frequently alternating on the same spot with long periods of rest. The greater part of the actual dry land has been deep sea, and then again land and ocean many times in succession, and, doubtless, the actual sea bottom would exhibit similar alterations were we able to explore it. The oldest and the newest stratified rocks are composed of the same mineral substances, for clay, sandstone, and limestone occur in the silurian and carboniferous formations, in the eretaceous and triassic systems, in the tertiary and in the alluvial deposits, which have immediately preceded the present epoch. Where then, it may be asked, does the geologist find a chronological guide to lead him through the vast series of strata which in the course of countless ages have been deposited in the water? How is he able to distinguish the boundaries of the various periods of creation? Where are the precise indications which enable him to decipher the enigmas which the endless fends of fire and water have written in the annals of our globe? The fossil remains of animals and plants wonderfully furnish the guidance which he needs. The corals and shells, the ferns and conifers, the teeth and bones found in the various strata of the earth—find the landmarks which point out to him his way through the labyrinth of the primitive ages of our globe as the compass directs the mariner over the pathless sea. Every leading fossil has its fixed chronological character, and thus the age of the formation in which it occurs may be ascertained and its place in the geological scale determined. It would, however, be erroneous to suppose that each successive formation has been the seat of a totally distinct creation, and that the organic remains in one particular stratum are separated by an impassable barrier from those which characterise the preceding or following sedimentary deposits. New genera and species have arisen, and others have disappeared—some after a comparatively short duration, others after having outlasted several formations, but every extinct form has but made way for others, and thus each period has not only witnessed the decay of many previously flourishing genera, but has also seen the birth of new ones. Universal destructions of existing forms, revolutions covering the whole earth with ruin, have most assuredly never occurred in the annals of our globe. A complete study of all the various transformations by fire and water which the surface of our earth has undergone would require an elaborate treatise on geology, and lies far beyond the scope of a popular volume chiefly devoted to the description of caves and mines; but he gives sufficient scientific information to render these matters thoroughly understood.

The chapter on fossils has some good figures of ammonite, trilobite, pyrogonites, sperifer, &c. He explains that the fossil remains of plants and animals which have been discovered and passed away since the first dawn of organic life occupy a prominent place among the wonders of the subterranean world, and describes the method of rearing them so as to determine the age of the formation in which they may be found. Subterranean heat, subterranean upheavals and depressions, subterranean waters and artesian wells, and volcanoes are treated of in the succeeding chapters; and the interesting manner in which they are treated cannot be better instanced than by a few extracts from the accounts of Dana's visit to Kilanea. High on the summit of Mauna Loa, where all vegetation has long since ceased, the warm steam of the fumaroles gives rise to a rapid growth of ferns in crevices sheltered from the wind; and on the island of Pantelleria the shepherds, by lying brushwood before the fumaroles, condense the steam, and thus procure a supply of water for their goats. The gentle fluctuations of lava in crater while in a state of moderate activity are nowhere exhibited on a grander scale than in the pit of Kilanea on Mauna Loa. The mountain rises so gradually as almost to resemble a plain, and the crater appears like a vast gulf excavated in its flanks. The traveller perceives his approach to it by a few small clouds of steam rising from fissures not far from his path.

On descending afterwards to the black ledge or gallery at the verge of the lower pit, a half-smothered gurgling sound was all that could be heard from the pools of lava. Occasionally there was a report like that of musketry, which died away and left the scene a mere murmuring sound, the stifled mutterings of a boiling fluid. Such was the scene by day—awful, melancholy, dismal—but at night it assumed a character of indescribable sublimity. The large cauldron in place of its bloody glare now glowed with intense brilliancy, and the surface sparkled with shifting points of dazzling light occasioned by the jets in constant play. The broad canopy of clouds above the pit, which seemed to rest upon a column of wreaths and curling heaps of lighted vapour, and the amphitheatre of rocks around the lower depths were brightly illuminated from the boiling lavas, while a lurid red tinged the distant parts of the enclosing walls, and threw their cavernous recesses into deeper shades of darkness. Over this scene of restless fires and glowing vapours the heavens by contrast black, with only here and there a star like a dim point of light.

But interesting extracts like these might be taken from almost every page of the book, whether we turn to the chapters upon geological matters, the subterranean relics of pre-historic man, cannibal caves, tunnels, or upon mines, gold, silver, copper, tin, iron, lead, mercury, or the new metals, each of which is made the subject of a distinct and highly attractive little essay, as is the case with coal, bituminous substances, salt, sulphur, amber, slate, and diamonds. A more readable book, giving the leading scientific facts connected with geology, mineralogy, &c., could scarcely be written; the number of facts which has been collected is immense, and they are put together in such a manner that they are quickly impressed upon the memory without involving the labour of study. Such works as those of Dr. Hartwig do more to diffuse a love of science than any others, and his "Subterranean World" is certainly not his least successful effort. The book is largely and beautifully illustrated, and whether for the instruction of the young or the amusement of the general reader is unsurpassed. It contains a vast fund of valuable information presented in a most enjoyable form.

An interim dividend at the rate of 10 per cent. per annum has been declared by Richards and Company (Limited). The company's collieries and general business are making satisfactory progress, and realising good profits.

* "The Subterranean World." By Dr. GEORGE HARTWIG. With three maps and numerous engravings on wood. Third edition. London: Longmans, Green, and Company.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

SHIRLAND COLLIERIES COMPANY (Limited).—Capital 150,000*l.*, in 5*l.* shares. To acquire the East and West Shirland Collieries, Derbyshire. The first seven subscribers are—A. J. Mundella, M.P., The Park, Nottingham; Alexander Macdonald, M.P., Well Hall, Hamilton, Lanark; Thomas Moore, Ashfield Grove, Sheffield; W. J. Holmes, Holmville, near Leeds; draper; W. J. Clegg, 22, Victoria-road, Broomhall Park, Sheffield; solicitor; D. Moulson, Swinton Common, near Rotherham; S. Broadbent, Church Street, Kilmhurst, near Rotherham. The directors will be Messrs. A. J. Mundella, M.P., A. Macdonald, M.P., T. Moore, John Holmes, W. J. Clegg, D. Moulson, S. Broadbent, J. Normansel, and P. Casey, the qualification being the holding of shares or stock to the value of 50*l.* The office of the company will be at 19, Regent street, Barmley.

GREAT WYRLEY COLLIERY COMPANY (Limited).—Capital 100,000*l.*, in 100*l.* shares. To carry on mining operations at Great Wyrley, Stafford. The subscribers (who take one share each) are—Thomas Bantock, Meredale House, Wolverhampton, coalmaster; B. B. Bantock, The Fenney, Wolverhampton, carrier; agent; Bernard Gilpin, Longford, Cannock, coalmaster; J. P. Gardner, Cannock, solicitor; D. W. Munro, Churchhill, Cannock, colliery manager; Thomas McGhie, Cannock, mining engineer; and J. Moxon, Rugeley, gentleman. The qualification for director is the holding of shares to the extent of 1000*l.* The directors are not yet appointed, but the subscribers will act for the present.

MORRIS AND SHAW (Limited).—Capital 160,000*l.*, in 100*l.* shares. To acquire the Birch Coppice Colliery, in the county of Warwick, and other property, as well as the business of Messrs. Arthur Morris and John Shaw, colliery proprietors. The price to be paid for the property is 150,000*l.*, of which 50,000*l.* will be paid in debentures. The subscribers (who take one share each) are—Thomas Atkin, the elder, Grendon, near Atherstone, farmer; Thomas Atkin, the younger, Grendon, Warwick, miller; C. Bladon, Warwick, coal merchant; O. Heywood, Wilneote, miller; S. J. G. Mallaby, Grendon, miller; Arthur Morris, Tamworth, colliery proprietor; and J. Shaw, Church street, Tamworth. Mr. Arthur Morris will be managing director at an annual salary of 700*l.*

HAREHOPE GILL MINING COMPANY (Limited).—Capital 10,000*l.*, in 1*l.* shares. To work for lead ore under land at Harehope Gill, in the parish of Muggleswick, Durham, comprised in a title now granted by the Ecclesiastical Commissioners of England. The subscribers are—H. Wilson, South Shields, timber merchant, 2500; Thomas Ridley, Newcastle-on-Tyne, merchant, 1900; H. Clapham, Newcastle, merchant, 50; J. Macenay Remington, Newcastle, manufacturer, 100; S. Leybourne, Blackhill, Durham, accountant, 2450. The directors are Messrs. H. Wilson, T. Ridley, J. Howard, T. Armstrong, Walter Smith, and J. M. Remington, the qualification being 100 shares.

CIVIL SERVICE MUTUAL CO-OPERATIVE SOCIETY (Limited).—Capital 100,000*l.*, in 2*l.* shares. To carry on the business of a co-operative society. The subscribers (who take five shares each) are—C. Laurence, 39, Lombard street; C. Harrington, 2, Queen-street-place; T. G. Wilson, 8, Walmsey street, Waltham-road; W. H. Lund, 4, Queen's Buildings, Queen Victoria-street; W. Turner, 48, Upper Thames-street; J. McArthur, 1, Old North-street; B. M. Woolan, 62, Cornhill.

WIESBADEN TRAMWAYS COMPANY (Limited).—Capital 100,000*l.*, in 10*l.* shares. To construct tramways at Wiesbaden. The subscribers (who take five shares each) are—W. J. Valentine, 173, Fenchurch-street; E. Bishop, Ravenhurst, Central Park, New Wood; F. Tippin, Brasted Park, Sevenoaks; Alfred Allen, 61, King William street; W. Tipping, Brasted Park; W. B. Valentine, the Chalet, Bulwich; A. Jones, Brussels.

SURREY GARDENS (Limited).—Capital 20,000*l.*, in 2*l.* shares. To acquire the Surrey Gardens.

ST. BRIDES WELSH SLATE AND SLAB COMPANY (Limited).—Capital 50,000*l.*, in 2*l.* shares. To acquire the lease of slate and stone quarries under land known as Tyrrwyn Llywd, in the parish of Llanfair, Pembrokeshire, and also quarries under lands called Barry Island, in the same parish and county, &c. The subscribers are—J. Lee-Bellayse, Ranton, civil engineer, 5; E. Williams, 9, Lansdowne road, Lee, civil merchant, 5; W. Elchard, 23, Belchinsale, wine merchant's clerk, 5; J. C. Holden, 1, Warwick-road, Kensington, coal merchant, 5; Allen Thomas, Oxford Gardens, Notting Hill, engineer, 5; P. T. Bingley, 31, Walbrook, mining agent, 5; B. J. Cunningham, 9, Austinfriars, 5 shares. The directors are—F. W. Ranken, Northwick Lodge, Clifton; E. Lee-Bellayse; E. Williams; J. Davies, Blain Marlais House, Pembrokeshire; H. Cox, Cliftonville; James Stewart, Leadenhall-street, and Thomas Parley, Marquess road, Canterbury. The qualification is 50 shares, and the remuneration is to be 10 per cent. upon the net profits after paying 10 per cent. to the shareholders.

ORRELL COAL AND CANSEL COMPANY (Limited).—Capital 200,000*l.*, in 100*l.* shares. To acquire the Orrell Collieries, situated at Pemberton and Orrell, near Wigan, together with everything in connection with them, including the collieries, book debts, &c., of the former proprietor. According to the terms of the agreement made between W. Branker, W. H. Branker, and H. B. Whitburn, the price to be paid is 100,000*l.* The subscribers (who take one share each) are—William Branker, Blotock Hall, Denbigh, colliery proprietor; W. H. Branker, Bishop Hall, near Wigan, colliery proprietor; J. Branker, Greenbank, Waverley, broker; J. Hargreaves, Broad Street, Liverpool, gentleman; J. C. Godeffroy, Hamburg; Richard Branker, 1, Cavendish terrace, Liverpool, merchant; W. H. Harbottle, Orrell, near Wigan, mining engineer; and E. Morgan, Waverley, coal agent. The qualification for a director is the holding of shares or stock to the value of 3000*l.* The subscribers will be provisional directors.

ANGLESEA (PENMON) MARBLE QUARRIES COMPANY (Limited).—Capital 50,000*l.*, in 50 shares. To work and develop the Anglesea (Penmon) Marble Quarries at Penmon. The subscribers (who take one share each) are—F. A. Rogers, 25, Bishopsgate-street, advertising agent; F. Darlin, 37, Great Tower-street, wharf, Kent; C. Townshead Hook, Kent, paper maker; B. Williams, Acton Villas, Forest Hill, no occupation; J. H. Macnaught, 6, Heyborn Villas, Tottenham, no occupation; S. P. Clare, 9, Road-lane; J. R. Banner, 146, Finchborough-road; S. Kensington, colonial broker. The qualification for a director is 40 shares. The subscribers will act as directors for the present.

IMPERIAL CIGAR COMPANY (Limited).—Capital 30,000*l.*, in 12 shares. To acquire the business of the late firm of Gifford, Stower, and Co., and Mr. Fishwick, of Liverpool. The subscribers are—F. A. Middleton, 62, Dale street, Liverpool, 1*l.*; H. S. Stower, Hartington-street, Liverpool, 50; J. Stower, 16, Commercial-street, London, 10; H. P. Stower, Liverpool, 1; E. Dawnes Eccles, Clapton park, Birkenhead, 100; H. W. Handlyn, Liverpool, 1; A. Bowtles, Dale street, Liverpool, 5.

VICTORIA IRON WORKS (Limited).—Capital 2000*l.*, in 1*l.* shares. To manufacture and sell sewing machines, &c.

OIL AND STEARINE COMPANY (Limited).—Capital 25,000*l.*, in 10*l.* shares. This appears to be a reconstruction of the Patent Oil and Stearine Company (Limited).

TROWBRIDGE GEORGE HOTEL COMPANY (Limited).—Capital 10,000*l.*, in 10*l.* shares. To acquire the George Hotel, Trowbridge.

MITCHELL AND COMPANY (Limited).—Capital 13,000*l.*, in 10*l.* shares. To acquire a spindle and flyer maker's business at Bury.

JAMES E. WORSLEY AND COMPANY (Limited).—Capital 20,000*l.*, in 5*l.* shares. This is a Lancashire cotton spinning company.

WONDERFUL RETENTION OF HEAT.—On Oct. 30 the large new air shaft of the Belcher Mine, then completed to the 1000-ft. level, took fire and was destroyed. The timber of the shaft all burned out and the rock fell in and blocked it up. After mature deliberation it was thought that it would be better and cheaper to sink a new shaft than to try to clear out the old one, so badly were its sides caved and so great was the quantity of rock that had fallen into it. The new shaft was sunk a short distance to the west of the old one. It has now reached a point near the 1000-ft. level, where it will be continued down an incline. The incline was started at the 1000 ft. level, and carried up to meet the vertical portion of the shaft. The course of this incline carried it through the remains of the old vertical shaft, but as soon as it was tapped the men found that they could do nothing in it on account of the ashes, burnt earth, and rocks that poured down into the incline. A tunnel was then run until it had reached a point a short distance west of the old shaft, when a vertical upward shaft was made to the proposed incline to be run up to meet the new shaft. The men then began to work down on the incline in order to reach the point from which they were driven to try to come up. They have succeeded in getting into the old shaft, where, much to their surprise, they found the rock still red-hot. In trying to put in timbers they were set on fire, and in order to work at all it is found necessary to bring a line of hose into the place and play a stream of water upon the rocks wedged in the bottom of the old shaft. There is no timber on fire among the rocks. They seem to have been heated to a degree so intense at the time of the fire that they have remained red-hot ever since. When we find so small a mass of rock as can be contained in the bottom of a shaft remaining hot for over five months, after having been heated to whiteness, should we be incredulous on being assured by scientists that the centre of the earth, once a molten mass, still remains in a molten state after untold ages? Nearly three years after the great fire in the Yellow Jacket Mine places were found in the lower levels where the rock was still red-hot—*Virginia Enterprise*.

IMPROVED SLATE CUTTING MACHINE.—By the invention of Mr. T. W. Parry, of Danielsville, Pa., a wing piece projects from the front, on a level with the top of the frame, in which are notches for receiving the back edges of the pieces of slate, and squaring the same against the flange. The cutter plate is fastened to the top of the frame. The knife is attached to the end of a lever so as to cut with the cutter plate like a shears, and is composed partly of steel and partly of cast-iron. A stand from the sill pieces of the frame is forked at its upper end to receive the cutting lever. The machine is operated by means of treadles connected with the lever at different points. The operator holds the piece of slate over the cutter plate, with its back edge resting in one of the notches, according to its width, and its straight side against the flange, which is at right angles with the cutter plate.

A VALUABLE EXPLOSIVE.—In this year's report from the Commissioners of Public Works in Ireland special mention is made of various drainage and other works. On the estate of Mr. Philip Doyle, in county Donegal, owing to the number and size of the boulders scattered over and in the soil, all efforts to operate on it were in vain until dynamite was used, and then the success was marvellous. The Inspector, Mr. E. Murphy, says:—"It is perfectly wonderful what execution 2 ozs. of dynamite put in a 6-in. hole in a large sun boulder can do. For surface boulders a couple of charges placed on the top of the stone and covered or weighted by another boulder will break both up, the only difficulty (as Mr. Doyle remarked) being 'that you cannot find the pieces.' Mr. Doyle has also used dynamite in the removal of old roots of trees, and it splits them up into firewood."

HOLLOWAY'S PILLS AND OINTMENT.—In those diseases which are constitutional in their origin or chronic in their character these remedies will be found most useful; in fact, it is almost impossible to over estimate the power which these twin remedies exert over all maladies which depend on the blood, being in a state of contamination from any cause whatever. All manner of skin diseases from superficial sores to deep ulcerations will be found to yield to the curative powers of this ointment; it assuages pain, cleanses wounds, and works out a sound and lasting cure quicker than any known remedy. No one need despair of being cured, however deep-seated the disease, until they have given these remedies a trial.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toay, July 14: We have finished timbering the rise, slope, and intermediate level, which I believe to be secure. The men are now putting timber in the No. 2 adit level and footway winze from No. 2 to No. 1 adit level; to make these places secure. When they finish this I will put them to stope the bottom of No. 1 adit level and put in a r. rollers to the present end, and at once resume the driving of this level east. To stope the roof of No. 1 adit level, by four men, at 5*l.* 5*s.* per cubic fathom for the month. The lode in the slope is worth 20*l.* per fathom for lead.

BEDFORD CONSOLS.—G. Rowe, J. Mitchell, July 13: The part of the lode carried in the 67, east of the sump-winze, is 5 ft. wide, showing a kindly appearance, yielding angles, spar, mundle, and ore. The lode in the back of the shallow adit level is producing ore that mounds to the value of 10*l.* per fathom. The lode in the stopes in the bottom of the shallow level, east of the air-shaft, is worth 10*l.* per fathom.

BEDFORD UNITED.—Wm. Phillips, July 14: There is very little change to notice to day. The mine continues to look well. A full and favourable report will be given in the early part of next week for the general meeting.

BOWDEN HILL.—J. Goldsworthy, July 12: The water increases almost every foot we drive. This is a most encouraging feature. If the level be continued there is from all appearance a great prize before us on reaching the lodes in advance. The air pipes are exceedingly well, and afford us excellent ventilation. The total distance driven is about 102 fms.

BREDFORD.—July 15: There is no change to notice in any of the bargains on the north lode. The middle lode, in the 52 west, is worth 1 ton of lead ore per fathom. We are not quite through the middle lode in the 40, but the lode as far as proved is worth about 3/4 ton per cubic fathom. We yesterday cut into a large cavity here, lined with spar and cubes of ore. We have sold to-day 25 tons of silver-lead, to Trefry's Estate, at 18*l.* 6*s.* 6*d.* per ton.

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NEW HENDRA.—Wm. Rowe, R. King, July 10: Since the last meeting our operations have been solely directed towards the driving of the deep adit level, and we have to report our having made fair progress therein, especially during the last two months, the ground having taken a favourable change, being easier for driving, and at the same time more congenial for minerals. In the course of our explorations we have rich stones of copper ore in the adit end on the east and have broken the last few weeks, strengthening our hopes that we shall ere long have some important discoveries to communicate to you. The nearer we get towards the point we are driving at the more mineralised we find the ground becomes, and the probabilities seem strongly in favour of our meeting with mineral veins in considerable quantities even before we can reach the chief point of the attraction—the lode in advance of us. Our adit level would intersect these lodes at shallow operations of former workers. We have done already a considerable amount of work in a very inexpensive manner. We have done already a considerable amount of work in a very inexpensive manner. We have done already a considerable amount of work in a very inexpensive manner.

NEW ROSEWARNE.—E. Hosking, W. Bennett, July 10: The lode in the 61m level, west of Pool's shaft, is 2 ft. wide, and worth 12½ per fm. We like the appearance of this end, as it produces more yellow ore. The lode in the 58, west appearance of this end, as it produces more yellow ore. The lode in the 58, west appearance of this end, as it produces more yellow ore.

NORTH HENDRE.—J. Lean, July 14: In the north level we have risen from 7 to 8 yards, and have intersected what we consider to be the top bed, which cuts off the lead-bearing ground; we have directed the men to drive east, where the ground is most favourable for progress, and contains a little ore; we fully expect ground to be more extensive. The lode in No. 1 contains little still maintains its value, it improves as we extend. The lode in No. 2, south level, the kindly nature producing about 2½ tons of ore per fathom; and, judging from the kindly nature of the ground, we may expect further improvement. In No. 2 south level the flat we have been following shows signs of becoming more productive in lead; the character of the ground is exceedingly encouraging, composed of spar, sandstone, and a little clay, containing solid lumps of ore. The flat in No. 2 west level does not turn out so well as we expected, we have intersected a cross-joint, which has disordered the ground, and cut out all the ore. The lode in No. 2, south level, the kindly nature producing about 2½ tons of ore per fathom; and, judging from the kindly nature of the ground, we may expect further improvement.

NORTH PRINCE PATRICK.—J. Jones, July 15: Engine Shaft: The ore ground improves as we drive eastward, especially that of the hanging side of the vein; we had very good sized lumps of lead there this afternoon, and I am daily expecting it to yield ore in large quantities. The air has been very foul here, so that we have been compelled to relieve it by connecting a patent fan with the engine, which has been completed will be very beneficial.—Eastern Shaft: The ground is much easier for driving in the level; we have come upon another cross-parting, which greatly assists us, and from all indications I cannot but believe that we must be nearing some favourable change.

NORTH TREKERRY.—R. Pryor and Son, July 13: The lode in the deep adit level, driving east at cross-cut, without change to notice since last report. In the 30 cross-cut, driving north of north shaft, the ground is at present letting out much more water than we have ever before seen coming from this point. This, together with the fact of its being strongly charged with iron, leads us to believe that the lode is very near being intersected. The lode in the stope in back of the 30 cross-cut, south of Scorrer Consols engine-shaft, on the south lode, is worth 15½ per fathom for tin, and there is a good deal of ground at and about this place that will pay well for working. From the Highburrow lode we are breaking good quality stuff, and we shall be better able to give its value after we have taken down a part of the lode, and we find to be the south of the old workings. There has been no change calling for remark throughout the tribute department within the past week.

OLD BOTTLE HILL.—R. Unsworth, July 14: I have stopped the men in the 48, and put them to drive a cross-cut north to the main lode. Hooper's pitch, in back of the 38, the lode is 4 ft. wide, worth for mundaio 6 tons per fathom. Jones's pitch in back of the 12 is without alteration.

OLD TINCROFT CONSOLS.—J. Pope, July 14: In the 10, west of Diamond shaft, the lode is 15 in. wide, worth 15½ per fathom. In the 30, west the lode is worth 8½ per fathom. We are clearing the engine-shaft as fast as possible, and shall commence building the engine-house on Monday or Tuesday next.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, July 14: The lode in the 70 end, and ending towards it from the winze sunk under the 60, still look very well; in the former worth about 15½ per fathom, the latter about 20½ per fathom. In the 80 south we think we are very nearly getting out of the disordered ground. In the 90 south we are daily expecting to communicate to the winze. In the same level north the lode has a good appearance, producing a little ore, but not to value yet. In the 100, south, the lode is about 1 ft. wide, producing occasional stones of ore. Will send you a detailed report next week.

PARYS MOUNTAIN.—T. Mitchell, July 14: We are occasionally meeting with small strings of sulphur in the 90 cross-cut south; the ground continues much the same as for some time past, and fair progress is being made in driving. The winze below the intermediate level is down 7½ fathoms, and we have now put the men to stope the lode, which will yield 5 tons of copper ore and 2 tons of sulphur per fathom. The 85 trial end, driving west of cross-cut, is producing good patches of copper ore; we expect to get about 5 fathoms more driving to meet with a strong cross-joint, and hope in connection with this point to find more copper. I am glad to say some points are looking a little better to day. The stope in the 80, west of cross-cut, has considerably improved, the hard chert rock having nearly all disappeared. The driving east of cross-cut is also looking very kindly, and I think we shall have a good lode here shortly. We have just cut into a vugh, mixed with quartz and crystals of sulphur, which is a good indication. We have commenced clearing up the precipitation pits.

PATELEY BRIDGE.—Wm. Williams, July 14: The vein in the cross cut in the 10, west from engine-shaft, is from 3 to 4 ft. wide, but poor for lead ore at present. We are putting up a rise in this end, for the double purpose of proving the vein and opening out ground for stoping, and I am glad to say the vein in the rise is 4 ft. wide, yielding from 20 to 25 cwt. of lead ore per fm. I beg to remark that the ground here is of a very easy nature to work, and we shall be able to stope it at about 80s. per fathom. The vein going west is being at present nipped, but I have no doubt it will come in again soon, yielding at present cubes of lead ore. In the 20 cross-cut south-west of the old Dickson vein the ground is very hard, and letting out water freely. No other change. The cross-cut east, in the same level, to cut Fielding, Sir Thomas, and other veins, is without any change since I last advised you; the men are working with spirit, and fair progress is being made. Engine Sump: This sump is in regular course of sinking, and is now down 39 ft. under the 20. The ground in the bottom is compact limestone, good for blasting. Gifford's Level: We are clearing and securing this level to Garnet and Sun veins as fast as we possibly can.—Primpag: We shall complete clearing this level in the course of a week or two days.—Blue Biggs: This level is now in regular course of driving. The vein in the end of the rise, consisting of limpspar, gossan, quartz, and spotted with lead ore—a splendid looking vein. We have three metal bargains working at a tribute of 10s. in 11. Herewith I beg to enclose cost sheet for the month of June, amounting to 2057, 6s. 1d., payment for which will be due on Wednesday, July 21.

PEDNARD AREA UNITED.—William Tregay, William Priddleau, John Pope, July 10: Sump: In the 160 west end the lode (Martin's) has improved in appearance, the branches becoming rather larger, and some of them coming together, producing rich stones of tin. In the 150 west end the lode (Martin's) is worth 15½ per fathom. In the 140 west end the lode (Martin's) is worth 26½ per fathom. In the 120 west end the lode (Martin's) is worth 10½ per fathom.—Colbards: In the 100 west end the lode (north) is worth 16½ per fathom. In the 80 west end the lode (north) is worth 10½ per fathom. In the 60 west end the lode (north) is worth 16½ per fathom. In the 40 west end the lode (north) is worth 16½ per fathom. In the 20 west end the lode (north) is worth 25½ per fathom. In the 55 west end the lode (north) is worth 9½ per fathom. In the 47 west end the lode (north) is worth 7½ per fathom.—Critchley: To 90: An elvan has made its appearance in this week we expect to start a cross cut from this shaft a little above where the lode made its first appearance. In this we shall have a few feet to cross cut for the lode, shall be enabled to drive on its course without obstructing the sinking, and in such a position relatively to the elvan, where a productive lode may be expected. In the 140 cross cut we are making good progress, now within 11 fms. from the Critchley's shaft. No other changes to report.

PERSEVERANCE.—Wm. Rich, Wm. Hambley, July 13: We have put down the 18-in. plunger and most of the necessary castings in the 70, but before we connect the plunger we are anxious to sink a few feet below the 70, on Davis's copper lode, so as to allow more space for water in case we should want to look to the lode. As soon as we start the cross-cut north we shall soon cut into the Wheal Uny lode, which will probably drive the 50 quite dry, as well as the Clyth Mine. The sinking below the 70 is now being urged on as fast as possible, as well as the sinking of the shaft below the 30, at Clyth.

PLYNIMON.—John Garland, July 14: Since my report for the general tinners; everything is being urged on as fast as possible. We still have frequent heavy showers, which maintain our supply of water. Drawing and dressing are progressing satisfactorily. Samples of another 40 tons of lead ore will be issued on Saturday, 17th inst.

PORT NIGEL.—Joel Manley, July 14: There is no change in the character of the lode in the 58 east, but the ground is a little easier for progress. The 56 west is worth 8½ per fathom, and likely to further improve. The 44 east is not looking quite so well, now worth 6½ per fathom for lead ore, with good stones of copper and blende; I believe this is a very temporary change, and will very soon improve again, as the ground and lode are precisely of the same description as they have been for some time past. The lode in the rise over the 44 has not been taken down this week, when last taken down it was worth 12½ per fathom; I expect to communicate this with the 34 within the coming week, which will ventilate and greatly facilitate the working of this part of the mine. The stope is yielding fairly favourably towards our next sampling.

PRINCE OF WALES.—J. Gifford, J. Pryor, July 13: The ground in the 77 is still easy for progress; lode about 1½ ft. wide, composed chiefly of mundaio, prian, and quartz, with spots of copper ore intermixed. The tribute department is without change.

ROMAN GRAVELS.—Arthur Waters, July 15: The two bottom ends, north and south, on Roman vein, are quite up to the value set upon them in last week's report. The 95, south of Cornfield's, is improving, and will soon be into a still richer lode. Another big deposit will shortly be met with here. The stope and other points without change of note since last reported on. Our next sampling takes place on the 22nd inst.

ROSEWALL HILL AND RANSOM UNITED.—Wm. Bagelhole, John White,

July 15: We are glad to say that the north carbons is further improved since last week, the lode now being 4 ft. wide, and worth 35½ per fathom. The part of this carbons going north-east is not quite so good; now 3 ft. wide, worth 12½ per fathom. Nos. 2 and 3 crossings are now 5 ft. wide, and worth 20½ per fathom. We have no particular change to notice in any of our bargains at Goble Pellas.

SOUTH CARN BREA.—Wm. Rich, J. Knottwell, July 12: The lode at the engine-shaft, sinking below the 164, is worth 12½ per fathom, and the ground easier for sinking than it has been. The lode in the winze west of the shaft, in the 164, is composed of fluor-spar and good stones of copper ore. The 164 east west carries good stones of ore—driving by six men, at 50s. per fathom. The 164 east carries a little tin and copper. In the cross-cut north, below the 150, we find some branches of rich tin. The stope in back of the 150, west of winze, is worth 12½ per fm.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, July 14: There is no material alteration in the mine since our report to the general meeting on Wednesday last. We have, however, intersected Fraser's lode in the 30 cross-cut south, which has a very promising appearance, and is worth 5½ per fathom. The ground is easier for driving. We intend to sell a parcel of tin on Saturday next.

SOUTHERN WARD.—S. J. Reed, July 15: The Orchard lode in the 45 fm. level, west of flat-roof shaft, is 3 ft. wide, and worth 18½ per fathom. This end is nearly under the winze which is being sunk below the 35, and worth 13½ per fm. The back of the level is set at a tribute of 5s. in 11. In the 35 east there is a desirable change in the lode, and the part we are driving on is 3½ ft. wide, and worth 9½ per fathom. A good length of tin ground has been driven through before this end in the level over, so that we may reasonably expect a continuance of it.

SOUTH ROMAN GRAVELS.—John W. Powning, July 15: Sheffield: The lode in the 120 was completed on Saturday last, and the shaftmen have since crossed the lode 120, and have not met with footwall; the portion of lode proved is made up of carbonate of lime, protoxide of iron, clay, patches of stone, and occasional stones of ore, but not enough of the latter to value. As soon as we have crossed the lode we shall resume sinking engine-shaft with all vigour.

SOUTH TOLCARN.—J. Vivian and Son, Jas. Paul, July 15: In the engine-shaft the lode is increasing in size, and producing very good samples of tin. In the 30 cross-cut, north from the engine shaft, the rock is easier for driving through than it has been, and we find floors carrying lumps of yellow copper ore and blende. The 40 cross-cut, north from the engine shaft, is 9 ft. wide, and worth 13½ per fm. The 40 cross-cut, north from the engine shaft, is 9 ft. wide, and worth 13½ per fm.

SOUTH WARD.—R. Goldsworthy, July 15: Saturday, the 10th inst., being setting-day, the following bargains were set:—To drive the 90 fm. level cross-cut, by six men, at 9½ per fathom; although the ground is harder, it is still congenial for the production of lead ore. To drive the 90 north, by two men, at 11. 15s. per fathom; we hope to reach the junction in about 8 fms. further driving, where we may expect a productive lode. To drive the 72 north, by four men, at 8½. 10s. per fathom; lode 4 ft. wide, composed of spar, prian, mundaio, and blende; a very promising lode. To drive the same level south, by six men, at 6½ per fathom; lode 5 ft. wide, composed of spar, mundaio, and spots of lead, but not sufficient to value, judging from its appearance there is every indication for an improvement. To drive the 60 cross-cut, by four men, at 7½ per fathom. Since last report we have intersected another floor, branch 3 in level, with a solid under a west, the character of the ground is all that can be desired for the production of lead ore.

ST. AGNES CONSOLS.—J. and W. Vivian, July 15: In the 72 fm. level, driving west of north cross-cut, the lode is 2 ft. wide, very kindly in appearance, producing a little tin. Rise in the back of the 72, lode worth 8½ per fathom for copper ore. No change to notice in the sinking of the engine shaft since last week.

TAKELLY.—J. Waters, July 15: The lode in Watson's shaft (now about 4 fms. below the 152 fm. level, cutting to widen out as we go down, and the ore is soft, solid, flakey stuff, similar to what we usually get from a big deposit; and present yield of the lode in shaft is 6 tons per cubic fathom. The lode in 152 end west is 5 ft. wide, well charged with lead throughout, and there is every indication to show that we are getting near the big bunch against the hanging wall. The stope in back of the said level, east and west of the two winzes west of shaft, are yielding ore in large quantities, as of late. The winze below 130 west is going down in good profitable lode. Other places as for some time past. We have to-day same good sized lumps of lead, for four men, at 11. 15s. per fathom.

TRELEIGH WOOD.—E. Hosking, W. Bennett, July 14: Fair progress is being made in sinking the engine-shaft below the 44; the water is easy, and the engine working well. In the 44 east end we are driving on the north part of the lode; the part carrying, 5 ft. wide, has a very kindly appearance, and produces lead, blende, and copper ores, worth for the latter 5½ per fathom; we have not yet driven south in the tin part. The stope in the back of the 44, east of the cross-course, on the copper part, is worth 14½ per fathom. The stope in the back of the 44, east of the cross-course, on the copper part, is worth 14½ per fathom. The stope in the back of the 44, east of the cross-course, on the copper part, is worth 14½ per fathom.

TREVARICK.—J. Pope, July 14: The engine-shaft is 10 fathoms 2 ft. below the 74; lode 18 in. wide, composed of peach, mundaio, and iron, with stones of tin. In the 74 west the lode is 3 ft. wide, with 10 in. on the north part, tinny, but not enough to value. In the 74 east no change worthy of notice since last reported; lode 18 in. wide, worth 18½ per fathom for tin.

TYLLWYD.—J. Paul, July 15: During the past month the engine-shaft has been sunk 3 fms. 3 ft. There are strong branches of spar, with mica, and ore coming in from the north side, and as we are now 40 fms. deep from surface, and nearly 30 fms. from the adit, and the middle lode underlies towards this shaft, in all probability these branches are coming from that lode, which cannot be far distant. The 20 has been driven 3 fms. 2 ft. during the past month. In this drive the lode has varied from 1 to 2 ft. 6 in. wide, at times carrying a branch of solid ore 1 ft. high, but at present it is crossed by another hard bar or cross-joint, which has again stopped the progress, and only from 9 in. to 1 ft. wide, with about ½ in. of solid rib of ore. I do not think the lode is long from passing indications. The stope in back of the 20 has not as yet improved as I expected last week, and is worth at present from 12 to 15 cwt. of lead ore per fathom. The lode over the south-west level is 2 ft. 6 in. wide, composed of clay-slate, spar, and lead ore, producing of the latter from 15 cwt. to 1 ton of lead ore per fathom. We shall increase the number of hands in the two stopes in a few days. The wet weather is making very much against us in our surface operations. However, under the circumstances, we are doing the best we can.

VAN CONSOLS.—J. and W. Vivian, July 15: I expect we shall commence driving a cross-cut from the main shaft at the 10 to intersect the north or produce tin part of the lode early next week. Latterly the ground has been more difficult to sink than usual; we have about 2½ ft. more to sink. The rises against Murray's shaft are still being wrought well, and going up rapidly. No alteration in any other department since my last advice.

VRON.—S. Harper, July 10: In the engine shaft sinking below the 100 yard level, there is no change worthy of remark since my last report. The same remark applies to the 100 yard level, west of engine-shaft. At the 80 yard level west the ground continues remarkably hard and the lode poor; at the same time, looking at the two or three shoots of ore gone down at the 60 yard level we may justly expect a favourable change in this level soon. The lode in the side of this level, and about 8 or 10 yards from the forebreast, is proving very satisfactory, being about 2 ft. wide, 1 ft. of which is very good, and at the west end of the rise is worth about 30 or 40 cwt. to the fathom; the east end contains saving work for lead. I intend opening a yard or two more, and then drive west as an intermediate level, in order to prove the length of this run of ore, we shall draw a good bit of leadstuff from the lode, and shall commence setting up the ladders on Monday next. All other things going on as usual. I shall be glad to know if I can set on two men in the bottom of the 80 yard level. I have two good steady miners who have been employed at the engine pit, if not put underground they must be discharged.

WEST GODOLEPHIN.—J. Pope, July 14: I have no change to report on in the mine since my last, but will send full report, as usual, for the committee meeting on Tuesday next.

WEST GREAT WORK.—S. J. Reed, July 14: We have discovered the Croft Goidal lode, which contains rich stones of tin, and as we approach the junction I think further improvement will take place. The No. 2 lode is being driven on west at this level, and the lode in the end is worth 8½ per fathom. We are close to the elvan, where the lodes on the west side were found rich. Plat has been cut and ladder-way fixed to the bottom of Duke's shaft.

WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, July 15: Willesford's Shaft, West Maria Lode: The shaftmen have completed cutting ground and fixing double skip-road from the 93 to the 104. In the 104 east a part of the lode has been taken down, and looks much the same as when last taken down: 4½ ft. wide, producing good stuff. Roasting mundaio and the lode poor; at the same time, looking at the two or three shoots of ore gone down at the 60 yard level we may justly expect a favourable change in this level soon. The lode in the side of this level, and about 8 or 10 yards from the forebreast, is proving very satisfactory, being about 2 ft. wide, 1 ft. of which is very good, and at the west end of the rise is worth about 30 or 40 cwt. to the fathom; the east end contains saving work for lead. I intend opening a yard or two more, and then drive west as an intermediate level, in order to prove the length of this run of ore, we shall draw a good bit of leadstuff from the lode, and shall commence setting up the ladders on Monday next. All other things going on as usual. I shall be glad to know if I can set on two men in the bottom of the 80 yard level. I have two good steady miners who have been employed at the engine pit, if not put underground they must be discharged.

WEST MILWR.—W. Francis, July 14: I have the satisfaction of reporting speedy ground in the cross-cut south from West Meadows shaft, the appearances generally being very favourable, and I am encouraged to believe we shall very shortly meet with good success.

WEST TANKERVILLE.—Arthur Waters, July 15: The 63, south of boundary shaft, continues to go forward in a strong, good, ore lode, and the end at present distance from the shaft, shows better prospects than we had in the 50 at a corresponding point. The 50 south is in a lode worth 1½ ton to 2 tons lead ore per fathom, price for driving being 6½ per fathom. In the winze, below the 46 south, there is a rich lode, worth 2 tons to 4 tons per fathom. We have about 9 ft. more to sink to reach the 50 fm. level. Our next sampling takes place on the 22nd inst.

WEST WHEEL GORLAND.—J. Mayne, July 15: We have a full staff of men sinking in the large bottom, and the lode, I am pleased to inform you, is still improving for copper; as we are sinking it will now turn out 3 tons per fathom, and should it continue to improve for the next fathom sinking as it has for the last fathom (in which I have every confidence) I shall soon have the pleasure of reporting a good lode of copper ore; and I am of the opinion that ere long, with a continuance of the improvement for copper, and the lode cut in cross cut, which we are daily expecting to do, that we shall be opening up a profitable mine to the shareholders. The lode in the 30 fm. level, driving west, is looking promising for an improvement. No other change to report.

WHEEL ARGUS.—T. Trahair, July 14: There is nothing new to report for the past week. As soon as we get a full supply of water for the stamps we shall at once put the tributors to work.

WHEEL CREBOR.—J. Andrews, July 24: The 120 east is still poor. The stope in bottom of the 120 east are worth about 10½ per fathom. The lode in the 108 east is 3 ft. wide, composed of quartz, capel, and a little mundaio. There is no change in the 72 east. In the 48 east the north part of the lode is 9 in. wide, composed of capel, quartz, and mundaio, yielding stones of copper ore. The south part of the lode is not taken down. There is no change in the stope in back of the 48, as the men during the past week have been putting in stull and calculating stuff.

WHEEL GILBERT CONSOLS.—James Pope, July 14: In the adit level west the lode is worth for tin 3½ per fathom. In the stope in the back of the adit the lode is 4 ft. wide, worth 10½ per fathom. In the cross cut south the ground is very favourable for driving, but we have not yet cut any lode or branch.

WHEEL GRENVILLE.—E. Hosking, W. Bennett, July 15: The lode in the 160, east of cross-cut, is worth 20½ per fathom. The lode in the 130, east of cross-cut from north shaft, is worth 30½ per fathom. The other bargains are looking much as last reported. Our setting is on Saturday next, when we will send you a full report.

WHEEL KITTY (St. Agnes).—Stephen Davey, J. Williams, July 10: New Shaft, Pryor's Lode: Done but little in shaft this week, water being in from a breakage in the pumpwork. In the 42, driving west of shaft, the lode is worth for tin 8½ per fathom. In the 142, driving east of shaft, the lode is producing a little tin. The lode in the 142, driving north, on the counter, is worth for tin 8½ per fathom. In the 130, driving west of shaft, it is worth for tin 17½ per fathom. The lode in the 130

east is poor. The lode in the winze sinking below the 130 east is worth for tin 12½ per fathom. The lode in the 115, driving west of shaft, the lode is worth for tin 16½ per fathom. The lode in the eastern adit, driving west, is interspersed with copper, blende, and mundaio, but not a sufficient quantity to value.—Engine Shaft: The lode in the 100, driving west of shaft, is 4 ft. wide, and producing saving work for the stamps. The lode in the 90, driving east, is without change to notice since last report.

WHEEL UNY.—W. Rich, M. Rogers, W. Rich, jun., July 9: The lode in the 160 end west carries a little tin. The 160 east is worth 6½ per fathom. The 150 west carries capital stones of tin, and looks very promising to improve. The 150 east is without alteration to notice. The 140 west is worth 5½ per fathom. The 140 east is worth 8½ per fathom. The rise in the back of the 150, towards Hind's engine-shaft, is being forced on. The 130 east is worth 9½ per fathom. The 110 east is worth 9½ per fathom. The 100 east is worth 8½ per fathom. The 40 west is worth 5½ per fathom.

FOREIGN MINES.

ST. JOHN DEL REY.—The directors have received the following telegram from Morro Velho, dated Rio de Janeiro, July 10: Produce 11 days (third division) of June, 17,500 oits.—6781; yield 11-2 oits. per ton. All going on well.

RICHMOND.—Cablegram from the mine at Eureka, Nevada: Hall, London: Week's run, \$45,000.

EDERHARDT AND AURORE.—Telegram from Capt. Drake: Ore mined, June, 1114 tons: ore on mine and mill dumps, 917 tons; ore milled, 1241 tons; assay value, 16,148½, equal to 132 per ton; bullion produced, 13,454½; percentage obtained, 83 per cent. Mine looking well. May accounts forwarded on 30th.

CEADAR CREEK.—The directors have received from their superintendent (Mr. C. T. B. Ludlum) the following telegram:—Total product last month (Yankee and Pacific, \$11,000; running expenses, \$8000; paid for permanent improvement, 15000. Tunnelled, 68 ft.

SIERRA BUTTES.—Result of the working at the Sierra Buttes and Plumas Eureka Mines for June.—Sierra Buttes Mine: Receipts, \$74,351; total California expenses, including cost of mining and milling, \$21,876.—Plumas Eureka Mine: Receipts, \$35,677; total California expenses, including cost of mining and milling, \$15,337. In addition to the foregoing yield from the mill 43 tons of sulphurets have been saved.

LONDON AND CALIFORNIA.—Telegram from the agents of the company in San Francisco: Almador clean-up amounts to \$20,640; total expenses, \$10,400; tons of ore crushed, 700 tons; remittance, 3000.

BIRDSEYE CREEK.—Mr. G. S. Powers, June 21: There is nothing of special interest to communicate at this time, with the exception that we have this day exploded a blast in Neece claim of 350 kegs. The blast was a perfect success, and I believe it to be better ground than any yet washed since the opening of the new tunnel; we shall be able to wash away but a small portion of it for the remainder of this month, but it will come in in good play in the next month's washing. We now hope to be able to buy water from South Yuba until about Aug. 1.

SWEETLAND CREEK (Gold).—G. D. McLean, June 11: Washing day and night. Cuts and powder drifts progressing, all wearing an aspect of activity. Will not start the tunnel again until after the present run ends. Creek acting well, but no tailings going through it except our own. All working well, but cannot tell yet what the prospect of the run is. Will clean up, if no hindrance, some time before the middle of July. This run will be entirely and exclusively from the side.

INDEPENDENCE (Gold).—Letters have been received from Mr. Kitto to June 24 (about a fortnight before the telegram received last week was dispatched). He expresses the belief that the new superintendent is the best gold quartz miner in California. Mr. Kitto writes: "From the discoveries we have made since I wrote my general report I am pleased to tell you that the ore above third level is much more than I put it at, and the quality far superior. I will try, if possible, to draw very little on you, even for the new stamps. I expect the first clean up from the two mills will be about \$15,000, and the cost, perhaps, about \$7000. This will improve as the ground is being opened. The new manager will not pass rock through the stamps that will not leave a profit, and this you will find of great importance."

BENSBERG.—C. Craze, July 12: There is no change in our underground operations since my last report. The shaftmen are engaged cutting plat on barrow-road at the 14 fm. level, preparatory to commencing shaft for another level. We shall get this completed with all possible dispatch, as we cannot proceed with the 14 end west or the stope in back of same until this is finished, there being no means of bringing away the stuff. The plunger lift was put to work last Monday; I am pleased to say it works very well indeed, and since it has been working we have saved fully 10 cwt. of coal per day. You will be pleased to hear also that we have sold the ore returned for June at a better price than hitherto. Stuff put to dressing, 55 tons, producing 8½ tons of 4 per cent.

MENZENBERG.—R. K. Roskilly, July 14: Dickins's engine-shaft: The 15 is driven west of cross-cut 30 fms. 4 ft.; the ground here, which is a little harder for progress, has a most favourable appearance, it being composed of a beautiful clay-slate, and in which we are meeting with small branches of spar, containing spots of yellow copper ore. The end is still issuing water freely, which is a favourable feature. The air at this point being not so good as it has been, we are, therefore, engaged in making an air-machine to be worked with the engine, so as to improve the air in this level. The 45 is driven east of cross-cut 4 fms.; the lode is 2½ ft. wide, yielding stones of copper ore, with a good appearance.

MINING NOTABILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

CHAPEL HOUSE.—It is stated that the 7½ per cent. debentures lately offered by the company for subscription amongst the shareholders are being rapidly absorbed—a satisfactory proof of the opinion regarding the colliery entertained by those who know most of it. These debentures are issued in the place of a portion of the share capital, which is held in reserve, it being considered cheaper to raise money in this way than by means of shares upon which the whole profits of the company are divisible. The money thus raised is to be largely devoted to developing the colliery, with a view to increasing the output up to 500 to 1000 tons per day, by which the company's profits will be largely enhanced. The new pits are being steadily and rapidly sunk, and the building of the new engine-sheds, &c., is proceeding well.

GREAT LAXEY.—The directors have declared a quarterly dividend of 8s. per share. They have also carried a further sum of 20000. to the reserve fund.

MARKE VALLEY.—At a meeting of shareholders, held at Salisbury on Wednesday, the accounts showed a balance in favour of the mine of 12700. 19s. 8d. The agents, in concluding their report, say—"It is with much pleasure we are enabled to report so satisfactorily of the value of the ends, which are more favourable for exploring, and as will be seen by the foregoing report are opening up considerable additions to the reserves of ore ground in the mine."

OLD TINCROFT.—The lode in the 10 west is worth 15½ per fathom, and the mine is likely to take a good position on account of the small cost of working. It may be remembered also that there is a good prospect for the tin market, notwithstanding statements to the contrary, and shares in good tin mines should now be bought. The present stocks of tin are large, and when they are compared with the two or three previous years they look very much worse as regards Cornish mining than they really are. The present combined stocks in London and Holland amount to 9938 tons. In the early part of 1866 the combined stocks were 16,300 tons, and on Jan. 1, 1867, they amounted to 10,400 tons. Looking at the fact that during this year, as far as it has gone out of stagnation and disaster, the deliveries of tin have so much increased that at the most moderate estimate 5000 or 6000 tons of tin have been raised in 1875 beyond the requirements of 1866 and 1867. A recovery in the price of this metal, and, consequently, an improvement in Cornish mining, may not, therefore, be so very far off as some people imagine. The Dutch Trading Company have announced that their next bi-monthly sale for the 28th inst. is to consist of 22,600 slabs of Banca—200 tons less than the last sale.

ECHOES FROM THE MINING MARKET.

The market for tin shares has been very quiet all the week, owing

The directors in proceeding to an allotment has been commented upon very severely. The result of the new proceedings on the part of the local shareholders will be watched with much interest.

A good deal of business has been done during the week in Pateley Bridge Lead shares. The mines are stated to be looking very promising, and it is expected some excellent results will shortly be attained. The shares are in demand.

The Foreign Share Market has been generally weaker, owing principally to restricted business.

JAMES H. CROFTS.

With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Coal-Cutting Machinery in England and America (William Firth); American Mining (Robert Knapp); Mining on the Pacific Coast, No. XII. (J. D. Fowler); The Clifton Silver Mining Company; the Eureka Consolidated Mining Company (J. D. Emmerley); Flagstaff Mining Company; Richmond Consolidated Mining Company; Ancient Discovery of Lodes (P. W. Flower, E. Sheaves); the Dividing Rod (Wm. Tregay); West Chiverton Mine; West Esqair Lode, Crown, Yspytty, and Van Consoles (Abraham Francis); Frontwynd Mine (T. Morris); Chontales, Javali; Foreign Mining and Metallurgy—Meetings of Public Companies: Colorado Terrible, San Pedro, Newport Abercrom, Marke Valley, East Pool, Birdseye Creek—Mining Enterprise in Utah—Steam Pumps, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JULY 16, 1875.

COPPER.				IRON.			
	£	s. d.	£ s. d.		per ton. £	s. d.	£ s. d.
Best selected...p. ton	87	0	0 88 0 0	Bars Welsh, in London	8	5	0 —
Tough cake and tile	88	0	0 87 0 0	Do., to arrive	—	—	—
Sheeting & sheets...	91	0	0 92 0 0	Nail rods	8	10	0 —
Boles	92	10	0 93 0 0	Do., in London	8	15	0 —
Bottoms	95	0	0 —	Bars, ditto	9	0	9 5 0
Old	80	0	0 —	Hoops, ditto	10	5	0 10 10 0
Australian, Wallaroo	90	0	0 90 10 0	Bars, at works	8	5	9 5 0
ditto other brands	87	0	0 —	Hoops, ditto	9	5	0 11 0 0
Chili bars, g.o.b.	79	10	0 81 0 0	Sheets, single, & plate	15	0	12 0 0
Wire	per lb.	0	0 1 1 1/2 —	Pig No. 1, in Wales	5	0	6 10 0
Tubes	per lb.	0	1 0 1/2 —	Refined metal, ditto	7	0	8 0 0
BRASS.				Bars, common, ditto <td>7</td> <td>5</td> <td>0 7 10 0</td>	7	5	0 7 10 0
	per lb.	9d.	10d.	Do., merchant, f.o.b.	7	15	0 8 0 0
Sheets	per lb.	9 1/2d.	—	Do., in Tyne or Tees	6	10	0 7 0 0
Wire	per lb.	9 1/2d.	11 1/2d.	Do., railway, in Wales	6	10	0 7 0 0
Tubes	per lb.	9 1/2d.	11 1/2d.	Do., Swed. in London	15	0	13 0 0
Yellow metal sheeting	per lb.	7 1/2d.	8d.	To arrive	15	0	13 0 —
Sheets	per lb.	7 1/2d.	—	Pig No. 1, in Clyde	3	0	3 8 0 0
SPELTER.				Do., f.o.b. Tyne or Tees	2	15	0 3 0 0
	per ton.	23	15 0 24 0 0	Do., Nos. 3, 4, f.o.b.	2	13	0 2 15 0
oreign on the spot	per ton	23	15 0 —	Railway chairs	4	0	4 10 0 0
to arrive	per ton	23	15 0 —	Do., spikes	12	0	13 0 0
ZINC.				Indian Charcoal Pigs, in London	per ton	—	—
In sheets	per ton	29	10 0 30 0 0	STEEL.			
TIN.					per ton.		
English blocks	£	85	0 0 87 0 0	Swed., in kegs (rolled)	—	—	—
Do., bars (in bris.)	£	86	0 0 88 0 0	Ditto (hammered)	19	5	0 0 —
Do., refined	£	87	0 0 —	Ditto, in fagots	20	0	0 —
Banco	£	81	0 0 82 0 0	English, spring	18	0	22 0 0
Straits	£	78	0 0 78 10 0	LEAD.			
Australian	£	75	0 0 76 0 0		per ton.		
TIN-PLATES.*				English Pig, com.	per ton.	£	22 0 0
	per box.	£	1 10 0 1 12 0	Ditto, L.B.	per ton.	£	22 0 0
IX Charcoal, 1st qua.	£	1 16	0 1 18 0	Ditto, W.B.	per ton.	£	23 0 0
IX Do., 1st quality	£	1 8	0 1 9 0	Ditto, sheet	per ton.	£	23 0 0
IX Do., 2d quality	£	1 14	0 1 15 0	Ditto, red lead	per ton.	£	24 0 0
IX Do., 3d quality	£	1 3	0 1 6 0	Ditto, white	per ton.	£	30 0 32 0 0
IX Coke	£	1 3	0 1 13 0	Ditto, patent shot	per ton.	£	26 0 0
IX Ditto	£	1 3	0 1 13 0	Spanish	per ton.	£	21 10 0
Canada plate, p. ton	£	15	0 0 16 10 0	QUICKSILVER (p. bot.)	per ton.	£	10 7 6 10 10 0
Ditto, at works	£	15	0 0 15 10 0				

* At the works, 1s. to 1s. 6d. per ton less. † Add 6s. for each X.
Terne plates 2s. per box below tin-plates of similar brand.

REMARKS.—The market continues universally quiet, and prices generally are without much alteration, but where quotations differ from those of last week the difference is generally in a downward direction. This is mainly caused by the excessive competition, which results from the extreme restriction of trade rather than from any fresh feature having arisen. It is now found that as quotations drop an increase in business results; and it is a very general belief in some quarters, as regards some metals, that there must be a still further drop in prices before any important improvement can take place in the trade.

Some little anxiety is beginning to be felt about the harvest, in consequence of the heavy and long continued rains, which have been so widespread and disastrous in their consequences, not only in this country but in the various corn-producing countries throughout the world. There is time yet for the corn to ripen, and should a warm sun succeed the protracted period of rain, an abundant harvest may still be gathered in; and through this means, perhaps more than any other, a prosperous season may be inaugurated. Money is cheap, and there is not much expectation, as trade is so limited, and but little money is wanted in the manufacturing districts, that what may be required for the purposes of the harvest will not materially enhance the rate of discount. The year is now so far advanced that a sudden and unexpected impulse to trade which might disturb the balance in the money market is improbable, and it is more likely that the closing half of the current year will maintain the character of the first half, and pass away without producing any very important results.

COPPER.—The market for this metal has been very much restricted during the week, and every description of copper has been dull of sale. Chili bars have hardly altered at all in value, the quotation throughout the week being 80s. to 81s. for g.o.b. usual cash terms, 79s. 10s. three months prompt fixed. The stocks of Chilean and Bolivian copper held at Liverpool and Swansea are estimated at about 14,523 tons of fine copper, as against 14,312 tons on June 30. The stocks are beginning to show a slight tendency to increase, but they are low as compared with former years. On July 15, 1874, stocks stood at 13,300 tons, and on the same date in 1873 at 25,000, and in 1872 at 15,400. At the Swansea Ticketing, on July 14, a parcel of 857 tons of ore, chiefly Cape produce, sold at an average of about 16s. 1d., the average produce being 21 11-16ths per cent. Tough copper is quoted 86s.; best select, 87s.; and 4 by 4 sheets, 91s. to 92s.; yellow metal, 75s. to 8d.

IRON.—The continued lack of a good understanding between masters and men forms but one among the discouraging features which the iron trade presents at this time. The masters are throwing out proposals which the men are taking into consideration, and if they are unable to come to terms it is understood that arbitration will be accepted. Meanwhile these differences of opinion really do not materially affect the trade, inasmuch as there is so little actual trade doing that were the most perfect unanimity to prevail there would be nothing for it but to wait for the dawn of better times. There is very little doing in pig-iron in the North of England, and rates are without material alteration—No. 1, 57s., No. 3, 51s., and No. 4, 49s. 6d. The finished iron market is very quiet, especially for railway material, and quotations are not so firm. Rails of ordinary sections are quoted 7s. 1/2; ship's plates, 8s. 10s.; merchant bars, 8s.; and puddled bars, 8s. 2d. The ironmasters' returns of stocks for June have been issued, and show that the production for the month exhibits a falling off of about 15,000 tons as compared with the previous month. The one day less in the month of June may partly account for the deficiency, but the reduced number of furnaces in operation is the more effective cause: 120 furnaces are in blast, 37 out of blast, and 11 are in course of construction. Notwithstanding the reduction in the make, stocks in makers' hands show an increase of nearly 10,000 tons, and are now estimated at upwards of 111,000 tons. Under these circumstances it is not improbable that unless the demand for pig-iron should improve other furnaces will be put out of blast during the month, inasmuch as makers are most averse to making for stock in the present condition and with the future prospects of the trade.

As was feared, the result of the quarterly meetings in South Wales has not tended to improve the position of the iron trade. It was thought advisable by some of the leading houses to reduce quotations, in the hope that business might result, but so far the experiment has proved unsuccessful. The existing dullness throughout the trade is unparalleled. The demand was never so slack, and there are serious apprehensions that the remaining portion of the year will be as unprofitable as the past half has been. There is as little doing in this district as in the North in railway iron, and the finished ironworks are sadly wanting orders, and there are very few now that are at work for full time. The only hope for the trade now is that such rates of wage shall be universally agreed to as shall enable the masters to lower their quotations to such a point that orders will be freely given out—foreign competition being beaten out of the field. If some such arrangement as this be not speedily made, matters will be necessitated to close their works, for it is simply an impossibility to materially lower rates of sale while rates of wage remain unchanged. The market for Scotch pig-iron opened firm at the beginning of the week, and a good business was done at about 60s. 3d. to 60s. 4d. On Tuesday prices remained much about the same, but only a limited business was reported. On Wednesday there was a steady market, and at the close there were buyers at 60s. 4 1/2d., and sellers at 60s. 7 1/2d. Yesterday business was done at 60s. 3d., and at the close of the market there were buyers at 60s. 1 1/2d., and sellers at 60s. 3d. The market is closed until Tuesday next.

Week ending July 10, 1875.	Tons	13,215
Week ending July 11, 1874	Tons	9,352

Increase 3,863

Total increase for 1875 Tons 76,717

LEAD.—The market has been firm throughout the week, and business has been reported in good soft English pig at 22s. to 22 1/2s. 5s.; soft Spanish, without silver, is still quoted at 21s. 10s.

SPELTER.—Ordinary Silesian has been dealt in at 23s. 15s. No alteration has been reported in hard spelter.

ZINC.—100 tons out of 120 tons London rolled has been sold at 27s. 15s.

QUICKSILVER.—At the commencement of the week Spanish quicksilver was quoted at 10s. 15s., and since then the price has been reduced to 10s. 10s., at which quotation a considerable business has

been reported. A new feature has transpired during the week in the report of the sale of 400 bottles of Austrian and Italian quicksilver at 10s. 7s. 6d.

TIN.—The market throughout the week has ruled in buyers' favour, and a fair amount of business has been reported in Straits from 79s. 10s. to 77s. 10s., the latter price obtaining for delivery in September. Australian has realised from 77s. to 75s. English ingots 85s. to 87s.

TIN PLATES.—The market continues very quiet, but sellers are not in a position to make such concessions as alone will be sufficient to induce business.

THE IRON TRADE (Griffiths's Weekly Report).—Friday evening. We have very little change to record in the market for Scotch pig-iron this week. This day, Friday, being a *die non* on the Glasgow Exchange there is no market. We have to report the same price as last week in Scotch pig-iron. The closing price on the Glasgow Exchange this day was 60s. 3d.; the closing price yesterday afternoon was exactly the same, buyers 60s. 1 1/2d. sellers 60s. 4 1/2d. No change whatever in the price on the week's operations. We quote makers' No. 1 iron as follows:—Gartsherrie, 68s. 6d.; Coltness, 69s.; Calder, 68s.; Langloan, 66s. 6d.; Summerlee, 66s. 6d.; Monkland, 62s., f.o.b. Glasgow; Glangarnock, 67s. 6d.; Eglington, 67s., f.o.b. Ardrossan; Shotts, 68s., f.o.b. Leith; Kennel, 62s., f.o.b. Boness. The week which has transpired since Quarter-day last Thursday at Birmingham has revealed none of those latent elements of power in the market so often predicted by the advocates of the fall in prices, the reduction of 1s. per ton on marked Staffordshire bars gives us no inappreciable indications of that volume of demand which must be the precursor of a favourable reaction. On the contrary, the rail market is weak and oscillating, and railway bars are literally being rolled with the most attenuated profits. The orders given out this week on the London market are from the normal sources of demand to supply the every day requirements of the engine factories and metallurgical establishments, our home trade and colonies being most prominent as buyers for best iron. We cannot observe in the operations of this market, at all events, that the fall in prices has given any considerable stimulus to the trade, and come what may, buyers need not expect any further reduction in marked Staffordshire bars for another 12 months. It is thought in well-informed circles here that by the end of this year the foreign demand may improve; in this case prices will be better; if, however, no marked improvement does take place before Christmas the make of numerous brands of best Staffordshire iron will then be reduced, or some of the large makers of marked bars may feel disposed to close the works altogether for a time. We give this opinion for the benefit of those subscribers who still talk of holding orders back for lower prices, for whatever other districts may do, marked Staffordshire bars—North and South—will be unable to sell at less than 10s. per ton, the Earl of Dudley's 12s. 6d. extra, come what may. We have to report a large failure in the coal trade this week. Nothing, however, unfavourable of this kind has occurred in the iron trade since we last wrote. The iron bills were paid with regularity on the 13th inst. The trade in sheet iron is more active than any other kind. Staffordshire sheets for galvanising purposes have been dealt in to a considerable extent this week. Attention has been particularly directed to the best brands. The Board of Trade have received a copy of a decree of the Spanish Government, providing that the import duty on Bessemer steel rails shall be the same as that on iron rails—8 pesetas per 100 kilogrammes.

COPPER.—(Messrs. Harrington, Moran, and Co., Liverpool).—The dullness noticed in our last was intensified on the 6th inst. by advice from Valparaiso of charters for the second fortnight in June being 4000 tons fine copper, composed of 1900 tons bars and ingots, and 1350 tons ore and regulus for England, and 750 tons bars for the Continent, since which a desultory trade has been going on at a decline of 20s. to 30s. per ton on Chili bars, and our lowest quotations to-day are somewhat nominal as the majority of importers decline to sell thereat. During the fortnight about 1000 tons bars sold principally by dealers at 83s. down to 80s. per ton, and in most cases without the usual brokerage being allowed. Arrivals here during the fortnight of West Coast, S.A., produce—Caribbean, from Colon, 131 tons bars; Potosi, from Valparaiso, 300 tons bars, 100 tons ingots. At Swansea—Delaware, from Duendes, 520 tons ore, 38 tons regulus; Scout, from Lota, 670 tons bars; Tocopilla, from Tocopilla, 550 tons ore, 200 tons regulus. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	11,441	749	—
Swansea	1223	979	1,648	—
Total	1223	979	13,089	749

Representing about 15,523 tons fine copper, against 14,312 tons June 30; 19,200 tons July 15, 1874; 23,500 tons July 15, 1873; 15,400 tons July 15, 1872.

According to the Board of Trade returns, the total imports and exports into and from this country for the first six months in the following years, were—

	1873.	1874.	1875.
Imports.			
Copper in ores	3,874	3,534	3,332
Ditto, regulus	5,087	5,739	8,697
Bars, cake, and ingots	17,173	21,594	23,444
In pyrites, estimated	6,860	7,055	6,814
Total imports	34,995	37,926	42,287

	1873.	1874.	1875.
Exports.			
Foreign copper, wrought and unwrought	12,517	10,406	10,649
Foreign copper, unwrought	10,759	12,526	6,931
Yellow metal	4,904	7,286	6,998
Total exports	28,280	30,218	24,578

Stock of Chili copper in Havre, 1207 tons fine. Quantity of Chili copper afloat and chartered for to date, 12,000 tons fine. Stock of foreign copper in London, chiefly Australian, 8309 tons fine, 1st inst.

Messrs. James and Shakspeare.—COPPER: Sales of bars throughout the week were but small, the transactions consisting entirely of a few second-hand parcels, chiefly the realisation of purchases made three months ago from "bars" at 80s. per ton, and which the said parties have been buying back, either at the same figure or 10s. to 20s. advance thereon. Importers are almost entirely out of the market, and though it would not be easy to realise in quantities at the lowest quotations, yet it is equally difficult to find sellers of large parcels except at an advance of 20s. to 30s. per ton on the top prices in our list. There is a moderate demand for Australian bars at the rates current last week. English descriptions are dull, and as reported at low prices, but smelters, as a rule, refused to accept the prices offered. TIN: For English the enquiry keeps slack, and values have fallen in sympathy with other sorts. Foreign descriptions are still much depressed, some of the importers having exhibited an anxiety to sell values show a further decline of about 2s. per cwt. During the last day or two, however, the tone of market has been steadier, as present prices have tempted buyers to come forward rather freely, though as yet they refuse to pay any advance on the lowest rates accepted. LEAD is in more request, and sales both of English and Spanish soft pig have been effected on slightly better terms. TIN PLATES remain very dull, and several makers have again reduced their quotations in the hope of inducing a demand. QUICKSILVER has fallen a further 10s. per bottle.

Messrs. Henry Rogers, Sons, and Co.—COPPER: Bars are not freely offered, but to effect sales 80s. has now to be accepted. English and Australian sorts are depressed, and lower prices are again current. TIN: Further foreign sales have been made in the week, and prices are in consequence 2s. more; a goodish quantity has been bought for investment, and there indications of the bar and value now being about reached. SPELTER: Is not so firm as it has been, the demand having slackened considerably. LEAD: Firm, and more in demand.

Messrs. Sanford and Bird.—TIN: The present low prices have attracted buyers, and a fair quantity of Australian has changed hands at 75s. In other descriptions there is little doing. TIN PLATES are steady, with a fair demand. LEAD is firmer. SHEET ZINC is firm.

Messrs. French and Smith.—TIN: The price has gone back about 3 1/2s. per ton during the past week. LEAD, firm. English is steady at 22s. to 22 1/2s. Spanish firm, 21s. 10s. QUICKSILVER quiet, at the reduction.

Messrs. Vivian, Younger, and Bond.—COPPER: In Chili bars a very moderate business has been done at 80s. to 80s. 10s. for good ordinary, and 80s. 15s. to 81s. 10s. for special brands, for holders, so long as the Valparaiso quotations remain considerably higher than the parity of this market, are, as a rule, unwilling to offer their stocks. In consequence, however, of the continued importations to Havre direct from Chile the French buyers have their choice of supply, and are not compelled to buy here as formerly. Chili bars have for some time ruled much out of proportion to English, as tough is only saleable above 86s. to 86s. 10s., and best selected, 87s. to 87s. 10s., to a very moderate extent. Manufactured steel neglected. TIN has further declined, under considerable pressure to sell foreign, from 3s. to 4s. per cwt., Australian selling down to 75s., and Straits to 78s. for cash and forward delivery, also August-September shipment. The market closes a trifle steadier. English being relatively dearer, and not pressed like foreign, remains nominally at 86s. for common ingot, with little doing. TIN PLATES in steadier demand.

Mr. Murrant.—TIN: The price of Straits has again receded (say) 30s. during the week, and a fair business has been done in this metal, as well as Australian, at the reduced rates. The drop in the past three months amounts to about 10s. per ton, and it will be found on reference to the corresponding remarks of April 9, that notwithstanding the then statistical position of the article, that the above reduction in price was pointed out as being clearly imminent; it is now hoped that no further depression of importance in prices will occur, as the loss to holders is already very severe. The business of the week has been reported as 250 tons Straits, and 150 tons Australian at 75s. to 80s., for cash and shipment. COPPER: At the Swansea Ticketing, on Tuesday, 857 tons of ore, with an average produce of 21 11-16ths per cent., brought an average price of 16s. per unit. Chili has been dull; no important drop has yet occurred; forward parcels have been somewhat freely offered by speculators for a fall, but these have not been very eagerly caught at, although it is known that consumers are rather bare of stock at the moment, and if the position of the article is as good as it is thought to be consumers should now be making heavy purchases, but as yet they have made no sign, preferring to continue on the "hand to mouth" system; while this is so, nothing but a dull and dragging market can result. The week's transactions have been about 500 tons of g.o.b. and best brands, at 75s. 10s. to 80s. 10s. for cash and prompt. In Australian little or nothing is doing, and prices are almost nominal. TIN PLATES: A fair enquiry exists for some particular brands. SPELTER: Firm. QUICKSILVER has been reduced to 10s. 10s., and Australian has been reported as sold at 10s. 7s. 6d.

Messrs. Flixley and Abell.—GOLD: In the absence of export demand the large arrivals, noted below, and, in addition, some amount from the Continent, have been purchased by the Bank of England—no less than 1,088,000s. in bars, American eagles, and sovereigns, having been sent in since our last circular. About 550,000s. has arrived from New York; a similar amount per Peninsula and Oriental steamer from Australia and Japan; and 21,000s. per Great Britain, from Melbourne; 153,000s. sovereigns have been shipped to the Brazils. The Peninsula and Oriental steamer is reported to have left Melbourne for Galie with 765,000s. This amount, comprising 549,000s. sovereigns, due here about Sept. 6. SILVER: There has been a fair enquiry for silver; the price, however, remains as last quoted by us—55 11-16d. per oz. standard. At this rate about 45,000s. ex Potosi, from the

Pacific, and a limited amount from New York, were disposed of. The Peninsula and Oriental steamer, leaving Southampton this day, takes 15,700s. for Bombay.

The unexpected fall in the tin standard, to which we referred last week, has added to the depression of the MINING SHARE MARKET, and for heavy tin mines there would seem to be no sale whatever. In copper and lead mines there has been business doing, and some of them have advanced in quotations, but the settlement of the fortnightly account has occupied the chief attention of the dealers.

The mines dealt in since our last have included West Chiverton, Tankerville, Pateley Bridge, Parys Mountain, Pennerley, Bog, sols, Ladywell, Marke Valley, Richmond, and a few others.

West Chiverton have been steadier this week, and leave off 14s. to 15s.; we understand the inspecting days here are now twice a month. Tankerville, 10s. to 11s.; the lode in the shaft is worth 6 tons per fathom, and the sampling for the four weeks is 150 tons of lead ore. Great Laxey, 14s. to 15s.; the directors have declared a quarterly dividend of 8s. per share, and added a further 2000s. to the reserve fund. Roman Gravel, 12s. to 13s.; the 80, south of Corfield's, is improving, and will soon be into a still richer lode. The 65, south of Stokes' winze, has also improved. Ladywell, 3s. to 3 1/2s.; the sampling here on Thursday is expected to be 40 tons, which will more than pay cost. Bog, 8s. to 10s.; Carn Brea, 35s. to 37s.; Cook's Kitchen, 4s. to 4 1/2s.; Devon Great Consols, 2s. to 3s.

East Pool, 14s. to 14 1/2s.; at the meeting, held in Cornwall, a dividend of 2s. 6d. per share was declared. The accounts, charging costs to May, and crediting tin to date of meeting, show a profit on two months' working of 1640s., a credit balance of 881s., out of which a dividend of 800s. was declared. The credits were 5774s. for tin, copper, and arsenic. The costs charged 4134s. The "old suspense account"—that is to say, the debt against the mine, has been transferred to a "bank and bank transfer account," which in plain English, it is presumed, means a debt to the bank. The mine is reported as looking well. The 180, east of engine-shaft, is worth for tin 40s. per fathom, and the 180 west 18s. per fathom. Dolcoath, 38s. to 40s.; East Lovell, 7s. to 8s.; East Van, 1s. to 1 1/2s.; Hingston Down, 22s. 6d. to 27s. 6d.; Marke Valley, 1s. to 2s. Parys Mountain have been in good demand at 12s. to 14s. Pennerley, 1s. to 1 1/2s.

East Grenville, 1s. to 1 1/2s.; at the meeting a call of 6s. per share was made. The accounts showed liabilities over assets 2560s. 13s. 6d. Since the last meeting a cross-cut has been driven north 24 fms. at the 25 level, and intersected the north copper lode, which has been opened upon 2 fms. of a very kindly appearance. From this lode a good deal of copper was raised, the agents state, from the 45 fm. and 55 fm. levels. Penruthal, 8s. to 10s. Treleigh wood, 5s. to 7s.; the stopes in the back of the 44, east of cross-course, is worth 14s. per fathom for copper; the end is worth 5s. per fathom for copper. St. Patrick, 20s. to 25s.; Bampfyde, 17s. 6d. to 22s. 6d.; Glaisdale, 19s. to 21s.; South Carn Brea, 1s. to 2s.; South Condurrow, 4s. to 5s.; South Croft, 15s. to 17s.; Tincroft, 18s. to 19s.; Van, 23s. to 25s.; West Esqair Lode, 12s. 6d. to 17s. 6d.; West Frances, 6s. to 7s.; West Seton, 20s. to 25s.

Wheal Crebor, 2s. to 2 1/2s.; the sampling here is 210 tons of copper ores and 100 tons of good mundic. West Tankerville, 12s. 6d. to 17s. 6d.; West Tolgus, 43s. to 45s.; Wheal Grenville, 2s. to 3s.; Wheal Kitty (St. Agnes), 2s. to 3s.; Wheal Uny, 2s. to 2 1/2s. Old Tincroft, 4s. to 4 1/2s.; the lode in the 40 west is reported worth 15s. per fathom for tin. St. Agnes Consols, 5s. to 5 1/2s.; Pateley Bridge, 7s. to 7 1/2s. Plymmon, 7s. 6d. to 10s.; 40 tons of lead ore have been sampled here since the meeting, the produce of four weeks. Van Consols have been firmer at 2s. to 2 1/2s.; driving will be commenced at the 40, from main shaft, next week to intersect the north, or productive part of the lode. Cathedral, 25s. to 30s.; in the 30 and west the lode is worth 20s. per fathom. In the winze sinking below the 30, west of engine-shaft, the lode is 4 ft. wide, worth 20s. per fathom. The winze in the bottom of the 30 east is worth 20s. per fathom. The stopes in the back of the 30 west is worth 15s. per fathom. Glyn, 1s. to 2s.; the agents report that a good lead lode has been met with, and the matrix the same as at Van.

Richmond Consols have had rather a serious fall to 11s. 12s. but leave off 13s.

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Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

VALUE OF METALS AND MINERALS.—"H. W." (Whitehaven).—In reply to the query in last week's Journal, good chrome ore of 50 oxide of chromium would fetch about 115s. per ton, but a sample and further particulars are necessary to ensure a nearer price.—G. G. B.

VISITS TO THE MANCHESTER EXHIBITIONS.—The third paper on this subject will appear in next week's Journal.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Received.—"E. J." (San Francisco), Paetolus and Babb Mines—"J. W. T."—"J. R."—"W. F."—"H. J. B."—"A. Subscriber" (Tavistock). They will be returned shortly.—"A. B." (Birmingham). A file of the Mining Journal can be inspected at the Public Library, and the required information be thus obtained—"Shareholder" (Crenner and Abraham)—"Reader" (Brighton)—"M. E., &c."—"E. B. W." (Dusseldorf)—"R. B."—"G. H. W."—"Shareholder" (Don Pedro) should write to the Secretary.

IMPORTANT NOTICE.—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the Mining Journal to many countries will be reduced to one-fourth. Henceforth the subscription will be 1l. 10s. 4d. per annum (30 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1l. 10s. (50 frs.).

AVIS IMPORTANT.—AUX ABONNÉS ÉTRANGERS DU "MINING JOURNAL."—A cause de la nouvelle CONVENTION POSTALE il y aura, à partir du 1^{er} Juillet courant, une grande diminution du prix de l'abonnement du Mining Journal pour bien des pays dont le taux des postes est jusqu'ici bien élevé. A partir du 1^{er} Juillet le prix de l'abonnement sera de 39 frs., le port compris, pour l'Autriche, Belgique, France, Danemark et ses dépendances, l'Égypte, l'Allemagne, la Grèce, l'Italie, Hollande, Portugal et ses dépendances, Roumanie, Russie, Serbie, Suède, la Suisse, la Turquie, l'Afrique septentrionale, etc. Le montant, si l'on le veut, sera touché à domicile, la fin de l'année. L'abonnement continuera sauf avis contraire.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, JULY 17, 1875.

COLLIERY ACCIDENTS, AND THE LESSONS THEY TEACH.

There is scarcely any kind of intelligence which should be perused with more interest by mining engineers than that which gives the particulars of mining accidents. In this belief the *Mining Journal*, from time to time, deems it a duty not only to record such accidents, but likewise, as occasion serves, to make those observations upon them which appear to us to be called for by the surrounding circumstances. As, in common with everyone interested in the progress of coal mining in Great Britain, we desire very earnestly that our coal should be got without that grave loss of life and limb with which its winning is at present accompanied, we now remark upon certain recent accidents in the Yorkshire and Lancashire coal fields. In the *Mining Journal* of July 3 we dwelt upon the necessity there is for the abolition of the use of gunpowder in pits where there is room to fear that the firing of it may be attended with dangerous consequences, and our readers will remember that on many previous occasions we have felt it our duty to take a similar line of action. In that article we quoted Mr. F. N. WARDELL on the 8th general rule of the Mines Regulation Act, and recorded with great satisfaction that within the last few months that Inspector had been successful in inducing some 10 or 12 of the largest colliery owners in South Yorkshire, including Earl FITZWILLIAM, to entirely do away with blasting. Another work would seem to be before Mr. WARDELL. There is a need that he should make an equal effort to induce colliery owners in his district to use safety-lamps where now naked lights are burned. One of the seams in his district is the Barnsley seam. To use naked lights in this seam is to incur a measure of risk, and Mr. WARDELL has not failed from time to time to say so. Arising out of the use of naked lights in that seam, in which a certain amount of gas is always to be found, there was recently an explosion at the Orgreave Colliery, about 7 miles from Sheffield, by which, though no life was lost, yet some 20 workpeople were injured. The gas in this case escaped from the floor of one of the benches. So long as the naked light is used in the collieries in the neighbourhood of Rotherham so long will these sad accidents occur. It is painful to learn that there are about 20 collieries working the dangerous seam in the Rotherham neighbourhood where the naked light is in constant use. Our district correspondence at the time announced that the managers after this accident had determined to prohibit the use of naked lights in the pits, and operations were stayed until a complete supply of safety-lamps was available. The Fence Colliery Company were by this accident not only taught, but they learnt, the lesson which the disaster furnished. Let us hope that before similar, or even more painful, issues attend the use of naked lights in the score pits to which reference has been made the managers in those cases will, either by this accident or because of the representations of Mr. WARDELL, take a similar step to that which has been adopted by the Fence managers. Meanwhile the Government Inspector has our warmest wishes for success in any effort which, encouraged by the result of his appeals to the collieries where gunpowder has before been improperly used, he may now deem it his duty to put forth.

Nor would Mr. WARDELL be doing amiss if in his district he should remind colliery managers, who may not only legally but likewise fairly use gunpowder, that this explosive is likely to be accompanied with far less risk when it is used in cartridges than when it is given to the men in the whole canister. What seems to us to have been a somewhat free and easy practice in the distribution of gunpowder has been shown in connection with the accident at the Dudley Hill Colliery, belonging to the Bowling Iron Company. Near some old workings where gas had accumulated a small band of men had to bring down some ironstone, and to do this they freely used the contents of their powder cans: 3½ lbs. of powder in canisters was supplied by the company every morning to men who needed it, and the rule was that they should return their canisters at night, but it was seldom that they did so. Yet somehow the deputy viewer did not usually find canisters about when he examined the workings in the morning, but he confesses he did not look particularly for them. Anyhow, one of the detachments of miners we have mentioned was breaking up the iron shale near to the old workings with a shot, when probably the shot fired before they were ready for it, and at the same time the gas in the old workings exploded. The result was that a man (PADGETT) and two boys were killed, and a fourth somewhat badly hurt. In the opinion of the Coroner's jury death was caused "by an accidental explosion of gunpowder, which might have liberated gas from the old workings, and fired it, but how this was brought about they had no evidence to show." All this is just what one might have expected, but surely the lesson which this accident teaches is that which we have already hinted—the use in blasting of one or other of the numerous classes of cartridges, by which the gunpowder is limited in quantity, and the using of it is reduced to the minimum of hazard.

Nor should colliery managers who are sinking shafts forget that there is much need for closely following the sinkers with air. It is not enough to well blow the air over their heads—it should sweep through to the very bottom of lowest scaffolded space, and when the air is near to the men care must be taken that if the air troughs

are temporarily removed whilst a shot is being fired, it is quickly replaced. A neglect to observe these requisites to safe sinking in the midst of carburetted hydrogen, should not lead to fatal issues if managers bear enough in mind that more thoughtfulness in both these regards might perhaps have been unattended with the loss of the four lives at one of the pits of the Mirfield Coal Company, also in Mr. WARDELL's district, as to which the verdict at the Coroner's enquiry was—"accidental death, but the jury are of opinion that it was an error of judgment on the part of the managers in not continuing the air-pipes below the scaffolds." Finally the loss of three men at the Coppice Colliery of the Bridgewater trustees will not have been in vain if working places where the mine has been heaving are examined elsewhere with the care which should be given to the timbering of such places before the colliers are permitted to resume work in the morning.

WAGES AND PROFITS IN THE IRON AND STEEL TRADES.

Considerable misapprehension appears to exist amongst ironworkers and miners as to the profits made by their employers, and this is in no way lessened by the tone adopted by the leaders of the men's associations in their inflammatory addresses on the rights of labour, but who carefully avoid all mention of the rights of capital. They tell their hearers, who are always willing to accept from them as true every statement which favours the workmen's side of the question, that the position of trade is not in the state their employers desire to be believed, with a view to having some apparently substantial groundwork for reducing wages. They also assert that the price of iron and steel, as well as coal, has not fallen so low as many interested parties wish to make those in their employment believe. At the same time they have entirely abstained from directing attention to the many failures in the iron trade, the winding-up of numerous colliery and other companies, and the plethora of state of the labour market, of which we have daily record. These are matters sufficiently suggestive in themselves to indicate what is perfectly well known to all our ironmasters and mineowners, that the two most important of our national industries are in anything but a healthy state, the price of iron, steel, and coal being exceptionally low. To such an extent has this been the case that in numerous instances the business done has been on terms such as could not pay bank interest on the capital invested in ironworks and collieries. But such truths are never made known to the rank and file of the workmen by the well-paid agitators who live in idleness and fatten on the industry of the working men—their presumed employers, but in fact their too often faithful serfs, and whose preachings and teachings are more injurious to them than they have ever proved beneficial. But such information ought to be placed within the reach of our working population, particularly that portion of it connected with the production of iron, steel, and coal—industries which may truly be said to be the foundation of our commercial greatness. If, however, we look at those important branches of our trade for the last half-year, and in which such a vast capital is invested, from almost any point of view, we find that employers have had very great difficulties to contend with, and are even now struggling with them. This is most forcibly shown by the Board of Trade returns just issued for the six months ending June 30, and the same months of 1874. In them we have a record, the accuracy of which cannot be questioned, of the quality of iron, steel, coal, &c., sent out of the country, as well as of the declared value. From them we find that a very great change has taken place during the year so far in the value not only of raw and manufactured iron and steel, but also in coal, with which the production of the former is so intimately connected. Such information, clearly and fairly analysed and dissected, should, in our opinion, be placed within the reach of both masters and workmen, so that facts in which both have a deep interest should be thoroughly understood and appreciated. With that view we purpose giving some particulars with respect to the iron and steel trades, based on the export returns of the Board of Trade for the last six months, and the same months of 1874.

Commencing with pig-iron, we find that our exports for the present year up to June 30 were considerably in excess of those for the same period of 1874, the respective quantities being 432,519 tons, and 319,898 tons, an increase in favour of 1875 of 112,621 tons. But it is most significant indeed to find that the gross value of the lesser quantity was more than for the larger one, for whilst the average price in 1874 was no less than 5l. 3s. 10d. per ton, in 1875 it had fallen to 3l. 19s. per ton. It is needless to say that the wages of furnacemen and ironstone miners were only reduced to a very moderate extent indeed, and whilst coal was rather cheaper in 1875, yet it will be evident that the making of pig-iron of late must have been the reverse of remunerative. The same remarks apply to bar, angle, bolt, and rod iron, the exports of which increased from 114,485 tons in the first half of 1874 to 128,388 tons for the corresponding period of the present year. And here, again, we have to notice the very great falling off in the price, for whilst the iron named exported last year during the first six months averaged 12l. 17s. 6d. per ton, this year so far it has only been 10l. 6s. 2d. per ton. For this great loss we are not aware that the makers have received any compensating advantage at all approaching the loss in price. In rails, however, the change has been very great, and has been much felt, for it is the principal article in iron exported from England, and for many years past we have had the best markets almost in our own hands. Such is not the case now, for whilst in the first half of 1874 we sent 74,460 tons to Russia, this half-year we only exported 30,927 tons. There was also a very great decrease in the tonnage sent to the United States, British India, Sweden, and Norway. The actual fall-off was from 427,267 tons for the six months of 1874 to 259,307 tons during the corresponding period of 1875. This was a very serious falling-off, but it was evident that it was not occasioned to any appreciable extent by the stoppage of the mills and furnaces, or of the collieries, owing to the strike in South Wales. The men in that portion of the Principality did not believe the statement of their employers that the price of railway iron had fallen off very much indeed, and wished to examine the books. As that, for obvious reasons, was not allowed, we are in a position to give the information required, and which fully bears out the assertions made by the South Wales ironmasters. For the first half-year of 1874 the average price of the railway iron exported was 12l. 17s. 6d. per ton, while for the same months of the present year it was less than 10l. 8s. 6d. per ton. The difference shows that the makers of rails were more than justified in asking for a considerable reduction in the wages of both millmen and miners, whilst it is also plain that the latter had not the slightest ground for refusing to share in the great falling off which had taken place in the price of manufactured iron, especially rails. In hoops, sheets, boiler, and armour-plates there was a great decrease in the price, for they were about 3l. per ton less this year than they were last. The above simple facts, which cannot be controverted, show how useless it is for men to stand out for wages nearly equal to what they were in receipt of last year, when such a very great change has taken place in the price of every description of iron and steel.

It has been the custom of many of the leaders of our Trades Unions to sneer at the idea of trade being driven out of England by the action of the workmen. But, despite such jeers, this is now being actually accomplished. America is now competing with us in many markets, and we find from the Bureau statistics for April that for that month the importations of iron and steel of every description were 116,040,838, against 828,537,256 in April, 1874. The decrease from April, 1874, will, consequently, be something like 45 per cent. On the other hand, the export of the same description of goods shows a very considerable increase, as follows:—

	April, 1875.	April, 1874.
Iron and manufacture of iron.....	86,236,765	87,769,344
Steel and manufacture of steel.....	5,819,631	2,685,328

An increase equal to about 23 per cent. The above figures cannot fail, we think, to show that America is already a powerful competitor with us in many markets for iron and steel, and is likely to become still more so. It will, then, be well for our workmen to seriously consider their position, and whether it is likely to be improved by acting in opposition to their employers, instead of aiding them in every way to hold the position they have hitherto done in the markets of the world. The latter can only be accomplished by

harmony of action and a cordial understanding between the workmen and their employers, and if this be done we have little fear but that our manufacturers will be able to hold their own against all competitors. A contrary course, however, may seriously injure men, but must end in something closely approaching ruin to the men, and the complete discomfiture of the Unionist leaders.

PREVENTION OF EXPLOSIONS IN COLLIERIES.

In the very able letter which appeared on the above subject in the Supplement of last week's Journal from Mr. WARBURTON, a well-practical suggestions are made with respect to the working of coal, which we think ought to receive the very best attention at the hands of our colliery owners. He points out with force what we have on several occasions ourselves done, that blasting coal is not only not scientific, but destructive alike to the value and the quality of coal. This will be apparent when it is considered what a very large quantity of slack powder it must necessarily make, leaving entirely out of the question, on the other hand, that the wedge brings it down in large blocks. But what we were more particularly struck with in the letter of our esteemed correspondent was his statement that one man will use (say) 12 lbs. or 15 lbs. of powder in a week, whilst his next neighbour will get as much coal twice as valuable, and will not use, perhaps, 1 lb. of powder, or perhaps none at all. This shows that superior skill in a mine, as it is, indeed, everywhere else, is to the advantage, not only of the possessor of it, but to the owner as well. It is thus evident, on the ground of increasing the value of coal alone, that blasting is not only unnecessary and dangerous but a serious loss to the mineowner. There is, therefore, no reason why the colliers should not be initiated or instructed into the best method of "holing" the coal, and shown how it might be brought down by its own superincumbent weight.

Such limited education as to mining would, doubtless, lead to a desire for further information with respect to other matters, by which labour might be lessened, and the get of coal increased. The miner might be shown where his wedge could be placed to the best advantage, and be made acquainted with the line of least resistance in the coal, whilst by an acquaintance with the character and nature of the roof he would be saved much time and trouble in timbering. Not only so, but be able to prevent the possibility of injury from falls. But we are afraid that such elementary instruction, by which accidents would be prevented, coal got much easier, and in a more marketable state than at present, and to the pecuniary advantage of both master and workman, will not find much favour from those who would be benefited by the making of miners more skilful than they now are. Where so much is to be gained, however, we hope that someone will make a move in the direction indicated, if only to show to others what the result would be. That there are men of ability willing to rise from the ranks of the collier if they had the opportunity we know full well, and we have had many instances of men rising to the highest eminence as mining engineers who had worked at the coal face for a livelihood—a notable example, indeed, we have in the career of our esteemed correspondent, Mr. WARBURTON. The testimony of that gentleman shows that blasting with powder is not only unnecessary but a positive loss to the miner and his employer, whilst it must be always looked upon as a fruitful source of danger. There is, therefore, no reason whatever why blasting should not be done away with in all our collieries, more particularly those in which it is known that gas is let off in considerable quantities. As we have before pointed out, a majority of the Government Inspectors of Mines have agreed that gunpowder should be done away with, whilst we are told by a gentleman of such extensive experience as Mr. WARBURTON that the coal could be raised without it more systematically, and eventually scientifically, and less murderously, and with results in favour of the colliery owner that would astonish him. We are, therefore, at a loss to find any ground whatever for the Home Secretary declining to act at once and prohibit the use of a material that has caused such an immense loss of life in so many of our mining districts.

SUBMARINE TUNNELLING, AND THE MCKEAN DRILL.—The tunnel heading which is being driven under the Severn, at Portskewett, by the Great Western Railway Company, to prove the ground, is now advanced 350 yards, and everything is favourable so far. This driving is at 200 ft. below high water, a shaft having been sunk for the purpose of the experiment. The McKean Boring Machines are employed with great success, over 18 yards having been driven in hard rock in one day, as we are informed.

SAN PEDRO (CHILI) COPPER MINING COMPANY.—A general meeting was held on Monday, and the details appear in another column. More than ordinary interest attached to this meeting, as the manager in Chili was present. It will probably be recollected that these shares were freely saleable at from 6l. to 7l. per share, when the quotation suddenly declined, owing to water having been unexpectedly tapped at the bottom of the mine, and the consequent suspension of returns. It is well known that this is regarded as indicative of the continuance of the lode in depth, and in this instance the water will prove of the greatest value for dressing operations at surface. There is a very large quantity of ore of a low produce above the 110 and at surface, which this water and the new machinery will enable the agents to dress up to about 20 per cent. When it is known that 12 per cent. ore pays the costs and that all in excess is profit, it will be readily understood that considerable importance rests upon the development of the lode, which is estimated to be at the lower levels 50 fms. wide; should this prove to be "bronzes," and large stones of this description have already been met with in the cross-cut, the produce will, probably, reach 40 or 50 per cent. Supporting this hope is the remarkable change that has taken place from the coloured or black ore to yellow sulphurets, or "bronzes," which in this district is looked upon as a certain indication of the presence of deposits of the richer ore. The mine is now amply supplied with machinery of the best description, and there are no debts either at home or in Chili, while the encouraging prospects now seem to point to the early commencement of that career of success so confidently anticipated at the formation of the company.]

NEW ZEALAND KAPANGA MINING COMPANY.—In our report of the proceedings at the meeting of shareholders, held on the 2nd inst., and which appeared in the *Mining Journal* the following day, we unintentionally attributed to Lieut.-Col. Fludger, one of the directors, certain observations which were uttered by another shareholder. The report stated that Lieut.-Col. Fludger, after seconding the resolution, went on to make some remarks respecting the intelligence and ability of Capt. Nancarrow, the economical and excellent manner in which the works had been laid out, and the value being got rid of, and further to express his opinion that the value of the mine was very high, and that he had not formed that opinion without due reflection. As a matter of fact Lieut.-Col. Fludger made no such remark; he simply seconded the resolution and set down, and the subsequent remarks which are attributed to him were really made by Mr. George Ogle. We readily make this correction, as it is of importance that gentlemen at public meetings should not be credited with observations which they never uttered.

COAL AND IRON IN THE UNITED STATES.—The Chicago, Burlington, and Quincy Railroad Company steel-railed its track last year to the following extent:—Illinois, 52 miles; and Iowa, 30 miles; making a total of 82 miles. This makes the total extent of line steel-railed at the close of 1874, 2864 miles. The Camden and Philadelphia Steamboat Ferry Company has contracted with the Harlan and Hollingsworth Company of Wilmington, Delaware, to build another iron ferry-boat of the same model and dimensions as the Pennsylvania, constructed last year. The anthracite coal production of Pennsylvania to June 12 this year amounted to 5,540,830 tons, against 7,931,638 tons in the corresponding period of 1874, showing a decrease this year of 2,391,808 tons. The bituminous coal production to June 12 this year was 1,312,193 tons, making an aggregate production to June 12 this year of 6,853,023 tons, against 9,189,257 tons in the corresponding period of 1874, showing a reduction this

year of 2,336,234 tons. The Philadelphia and Reading Coal and Iron Company has issued a circular of coal prices. The rates for June are 40 cents per ton below the prices of June last year for lump and steamer, 15 cents per ton less for egg, 10 cents per ton higher for chestnut and pea. The average is store, and about the same for reduction on last year's rates, with a difference of 250 per ton, showing a reduction of prices for different kinds. The latest intelligence from Pittsburgh as to the iron trade of that district is of a more cheerful character.

MOLD MINES.—This important property is now advertised for sale, in consequence of the depressed state of the times for the last two or three years having paralysed the efforts of a most respectable company in their striving to complete their subscription list for new capital for the erection of another pumping plant to perfect the drainage of a valuable run of mines practically proved. In the Journal of Feb. 27 last reference was made to this enterprise, which was then brought under the notice of the public. It was quite anticipated under such a direction, and with such a valuable property the shares would be at once taken up, but it appears that only 5000 shares were subscribed towards the minimum of 8000 shares required, and this shows the late indisposition of the public to subscribe to the most legitimate undertakings. In next week's Journal a further reference will be made, as this undertaking should not be allowed to be lost sight of.

ROYAL SCHOOL OF MINES.

At a meeting of the Council, held on Saturday, July 3, the following gentlemen received the diploma of Associate of the Royal School of Mines:—

MINING AND METALLURGICAL DIVISIONS.—Harry H. Becher, W. Frecheville, F. H. Marshall, Ambrose R. Willis.

MINING DIVISION.—Archibald E. Pisching, G. Seymour, H. Lamont Young.

METALLURGICAL DIVISION.—G. Fitz-Brown, Robert Hellon, W. Foulkes Lowe, Thomas Purdie.

GEOLOGICAL DIVISION.—G. C. Frames.

The following scholarships and prizes were also awarded:—

THIRD-YEAR STUDENTS.—The De la Beche medal and prize of books to Mr. G. Fitz-Brown. The Murchison medal and prize of books for geology to Mr. G. Seymour.

SECOND-YEAR STUDENTS.—H. R. H. the Duke of Cornwall's Scholarship of 30l. for two years to Mr. H. Louis; and the Royal Exhibition of 25l. to Mr. W. Hewitt.

FIRST-YEAR STUDENTS.—Two Royal Scholarships of 15l. each to Mr. A. N. Pearson and Mr. L. J. Whalley.

REPORT FROM CORNWALL.

July 15.—Least said is soonest mended. It is really idle to pretend at giving anything in the shape of a forecast of the immediate future, though as the general idea appears to be that we have not by any means seen the worst, it is by no means unlikely that the idea will be verified. Evil omens and forebodings are oftener realised than good ones. When, however, we announced—for the first time in print—a fortnight since that a renewed downward, though unofficial, step had taken place we must confess that we by no means expected it would be followed up so soon and so seriously. Again, there is nothing left but to wish and wait, though if this process is to continue much longer it is very certain that the number of workers and masters will be very seriously reduced. People naturally get tired even of merely going on just meeting cost, though it would be absurd under such circumstances to talk of abandonment in any serious mode, for while there is no loss on the one side, no one knows what may turn up on the other. But where as regularly as account days come round calls come round too, the most stalwart patience and the deepest pocket must in time show signs of exhaustion. Let us hope that the good time which we are promised by Christmas will not be so long delayed as that festival. If it is, the results will be rather awkward in certain quarters.

There is always a bright spot by the sky ever so dark; and upon this occasion it is supplied by East Pool, the recent history of which may be taken as in some sense a type of the chequered career of Cornish mining. Not so very long ago it was struggling under such a heavy burden of debt that some people believed it would never hold its head above water. But here it is—the debt cleared off, a good balance in hand, and a dividend declared. When a good mine is well managed it is very hard to kill; and East Pool is likely to outlast a generation of croakers yet.

Before long we shall hear how the new boring-machine answers in Dolcoath. We are more than ever convinced that it is in this direction that we must look for one of the most important sources of cheapening production, and we are perfectly sure that what has been done elsewhere can be done in Cornwall. The principle is beyond dispute; the question of adaptability can only be one of time.

ROYAL CORNWALL GEOLOGICAL MUSEUM SCIENCE CLASSES.—At the late examinations held by the Science and Art Department, the following students were successful in steam and metallurgy:—Philip Loretz, steam, elementary first-class; metallurgy, elementary second-class. J. B. Magor, steam, elementary first-class; metallurgy, elementary second-class. E. Serres, steam, elementary second-class; metallurgy, elementary second-class. A. K. Barnett, steam, elementary second-class; metallurgy, elementary first-class. The classes in these subjects were taught by Mr. Wm. Jago, of Hayle, who is now at the Government Science Schools, London, attending a course of instruction in advanced chemical analysis, &c., under the tuition of Prof. Frankland, F.R.S., examiner in chemistry to the Science and Art Department and Royal School of Mines.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 15.—The South Staffordshire Iron Trade has not undergone any improvement of importance as the result of the recent reduction in the prices of the leading firms. The market both for pig and finished iron is, indeed, decidedly flat, buyers expressing themselves dissatisfied with the extent of the reduction, which they declare is inadequate to the requirements of the case. Makers, on the other hand, affirm that the conditions of production render existing rates barely remunerative, and that any further concession is for the present impossible. Both in Wolverhampton yesterday, and in Birmingham to-day, good orders which might have been placed at a slight reduction were refused by the makers. Common cinder pigs range from 2l. 17s. 6d. to 3l. 5s. per ton. Mine pig, hot-air, is offering at 4l. for ordinary, and 4l. 10s. for best quality at works. The pig-iron manufacturers have decided to give notice to the furnacemen for a reduction of 10 per cent. in the rate of wages, to meet the recent concession in prices. Finished iron maintains only a languid enquiry, and the selling rates for the lower qualities show a good deal of irregularity. Common (unmarked) bars are selling at 8l. 5s., and ordinary sheets (singles) at 11l. 5s. to 12l. per ton. A reduction of 2s. per ton in the rate for galvanised roofing sheets has been declared this week by the leading local makers. Earl Dudley and Messrs. Barrow quote on the basis of 10l. 2s. 6d. for bars, but the New British Iron Company continue to quote the old rate of 11l. 12s. 6d. per ton. There is no improvement to note this week in the South Staffordshire Coal Trade, few of the collieries being in anything like regular operation. Best qualities of coal and slack command list rates, but selling prices for the lower qualities are irregular.

The Cannock and Wimblebury Colliery Company (Limited), at their new sinking near Hednesford, have just passed through the deep coal, which is of splendid quality, and 8 ft. 6 in. thick. The total depth of the shaft is 300 yards, and it has occupied just two years in sinking. Powerful plant and machinery have been put down, and the colliery will be ready for trade next winter.

This morning (Thursday) a boiler exploded at the Star Ironworks, near Wolverhampton, killing one and severely injuring several of the workpeople. Great damage was done to the works, as well as to adjacent property. The works had only been in operation a fortnight, but the boiler was an old one of the egg-shaped class. Mr. Elijah Banner is the proprietor of the works.

The following were among to-day's quotations on the Birmingham Stock Exchange:—Cannock and Huntingdon Colliery Company (Limited), 24 prem.; Chillington Iron, 54; John Bagnall and Sons, 6;

Ivy House Colliery, 1 dis.; Sandwell Park Colliery (10l. paid), 29 buyers; Gloucester Wagon, 163. The general tone of the market is steady.

The North Staffordshire Iron Trade is extremely flat, and the mills and forges are only doing four to eight "turns" per week. Bridge and boiler plates are the only classes of produce for which there is anything like a demand, and orders for these descriptions have considerably fallen off during the past fortnight. Plates are selling at 11l. to 11l. 10s., and crown bars at 8l. 12s. 6d. per ton. There is no movement in the coal trade, and good manufacturing coal is selling at 12s. to 13s. per ton.

At the ironfoundries, both in North and South Staffordshire, the demand for castings of the heavier class is well sustained, and there is every prospect of exceptional activity in this direction for some time to come.

The new rail-mill invented by Mr. W. Brown, of Bilston, has been tested with very successful results in the North Country iron district. During the past fortnight the Britannia Ironworks Company, of Middlesbrough, have made the extraordinary quantity of 2404 tons of rails, working 10 turns each week, with only 14 first-heating furnaces. The rails made consist of 45-lb. and 60-lb. sections, and the rate of production is unprecedented in the rail trade.

TRADE OF THE TYNE AND WEAR.

July 15.—The Coal Trade, on the whole, is very quiet, and many of the works have some difficulty in keeping on full time. There is no alteration in prices, but the late rates are not easily maintained. The demand for manufacturing coal has improved, and this is the only branch of the trade which shows any life at present. The demand for coke continues pretty good, but scarcely so strong as it was a month ago, the reduction in the make of pig-iron having evidently produced an effect. The house coal trade is very dull, and the same remark applies to gas coal. At Blyth the export trade is very quiet, although a good many cargoes of best steam coal have been shipped during the past week for the Baltic.

The Pig-Iron Trade continues very dull; the make has been considerably reduced, but stocks are still accumulating. A number of furnaces have been blown out, but no good result has followed yet. The manufacturers of finished iron get the raw material, both pig metal and coal, comparatively cheap, but they are at present pestered with the wages question. The demand for rails, bars, and plates is very limited. Prices for plates for general contracts are 8l. 10s. to 8l. 17s. 6d. Other classes of finished iron have not changed in value. The wages question is in a very critical state, and serious complications may possibly arise. At Middlesbrough, on Tuesday, the Coal Trade was reported dull. Coke has a further declining tendency. Woods' patent leak stopper, for stopping leaks in ships, was shown, and excited attention and general commendation.

Messrs. Hartley and Co., of Sunderland, are making good use of the idle time afforded them by the strike of the men employed in their extensive glassworks, to re-model the furnaces by substituting Siemens' for the present system. The Siemens' plan is to melt the glass by means of gas heat, instead of the coal which is used in the present style of furnace, and I believe it is a successful method for glassworks. These gas furnaces, I understand, are to be fitted up in all the houses before work is resumed, and the operation will necessarily take up some time. The glass trade generally is said to be much affected by abundant supplies from Belgium of the cheaper kinds of sheets for windows, and it, therefore, behoves British employers to strive after every improvement of an economical character, especially in the direction of saving fuel.

REPORT FROM LANCASHIRE AND CHESHIRE.

July 15.—The severe depression which has prevailed for the past few months in the Coal Trade continues without any sign of improvement. The reductions in prices, referred to in last report, do not appear to have materially affected business, and the state of affairs generally is very unsatisfactory. Large quantities of coal are being stocked on the pit banks, despite the alleged intention of the men to limit the output. There is a general feeling that wages ought to be reduced, but there is a want of unity on the part of the masters, some of whom got a severe lesson during the last strike, and no action has been taken in the matter. The main body of employers will not agree to enforce a reduction unless they have some sort of assurance that a few large concerns will not in the event of a struggle take the same course as they did in the last strike, and continue working while others were fighting the battle.

The traffic returns for last month do not show any important change in the quantity of coal sent by rail. The London and North-Western Company conveyed to the metropolis 78,196 tons in May, and 66,703 tons in June, but the decline does not appear to have materially affected the Lancashire collieries. There was a decrease in the quantity sent from Ince Hall, Pemberton, and Hindley Hall; but, on the other hand, the figures relating to the Strangeways, Mesnes, Garswood, and Swinley Collieries, showed an increase. Eight colliery firms sent 6700 tons in May, and 6400 tons in June.

An inquest was held on Monday touching the death of three miners, killed by a fall of roof at the Coppicefield Colliery, belonging to the Bridgewater Trustees, on the previous Tuesday. The evidence showed that the deceased and some other men were sitting in a "place," talking over some arrangements as to their work, when a sudden fall took place, burying the deceased. A verdict of "Accidentally killed" was returned. Mr. Martin, the Assistant-Inspector of Mines for the district, was present at the enquiry.

An examination of candidates for certificates as managers of mines has just closed in Wigan. Only four of the applicants passed; this is rather better than the result of the last sitting, but there is some anxiety as to where our mine managers are to come from, seeing that so few of the persons who present themselves as candidates are considered competent to hold certificates.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 15.—There is no doubt that every branch of industry in this district is more or less affected by the extreme dullness which continues to prevail in the Iron Trade. From being the main staple of this district, iron making has now become the least active industry in the Principality. It is to be feared that it will remain so to the end of the year, if not longer. The quarterly meetings have, unfortunately, had quite an opposite effect on business to what was expected. Instead of there being an increase in transactions orders are fewer than they were previously, and with just one or two exceptions, advices do not indicate that there is likely to be many orders in the market for some time to come. What with the great competition in all trades, and the small request for iron of any description, it is impossible that the lowering of quotations can produce any appreciable change in the trade. It is just possible that Russia will be a somewhat more extensive customer in the market in the course of the next few months, as it is understood that some important railway projects are to be carried out there, and if so probably this district will secure its share of contracts. Complaints are also current about the decline in the steel trade, the works being badly employed. There is no new feature to note in the tin plate trade. The strike at the Llandaff Works still continues. To give an idea of the sluggish state of business it may be mentioned that the total quantity of iron cleared from the district to the foreign markets during the last month was only 6546 tons, of which 4243 tons were cleared from Cardiff, 1132 tons from Newport, and 1171 tons from Swansea. It was distributed as follows:—Chalmac, 1062 tons; Gallo, 356 tons; Gothenburg, 1070 tons; Palermo, 110 tons; Stockholm, 425 tons; Sandswall, 400 tons; Christians, 582 tons; Gothenburg, 550 tons; Galatz, 752 tons; Lisbon, 102 tons; and Valencia, 317 tons.

The Coal Trade is affected to a considerable extent by the great depression in the iron trade; but there is a good foreign demand, and a large business is done. The supply, however, still exceeds the demand, and prices are expected to further decline. The coal exports last month were as annexed:—Cardiff, 270,343 tons, against 172,082 tons in June last year; Newport, 28,783 tons, against 23,789

tons; Swansea, 55,041, against 47,163 tons; and Llanelly, 7859 tons, against 10,620 tons. The coal shipments coastwise during the same period were as follow:—Cardiff, 60,047 tons, against 55,175 tons; Newport, 61,037 tons, against 55,723 tons; Swansea, 24,522 tons, against 22,789 tons; and Llanelly, 14,626 tons, against 16,666 tons. The clearances so far this month continue on the same large scale.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 15.—Lead mining in Derbyshire has undergone no change whatever of late, the output of ore being kept up to about an average at the leading works at Wirksworth, Hucklow, Castleton, the Peak, Eyam, &c. No doubt one of the great drawbacks to the development of lead ore in the county is the want of railway facilities, so that but few capitalists think about speculating in districts where those facilities are wanting. There are some few companies working mines, but, as a rule, they have not turned out so very profitable as to induce others to follow their example, so that the greater part of the business is done by private enterprise, as represented by the Wass family. The very reverse is the case with respect to coal mining on the other side of the Midland Railway, for there are companies raising as much as 600,000 tons of coal a year, if not considerably more, many of them being connected with very extensive ironworks, consuming a good deal of the coal raised. The export demand, however, for house coal at the present time is very moderate indeed, so much so that many collieries sending and selling alone to consumers principally at a distance have been unable to keep their men going more than four days in the week. The demand for London is very moderate indeed, and there has been a considerable falling off in the tonnage sent from a good many pits doing business there, although prices are considerably lower than they have been for a long time. Steam coal, however, is in better request, and the business doing is not so active for the time of year as we have known it to be. Trade at the Sherlad Colliery, which will shortly pass into the hands of the South Yorkshire Miners' Association, is very quiet, but it is said that once the transfer is made it will be worked with great energy. The ironworks, as a rule, have been doing very well in most parts of Derbyshire, the make of pig being very well kept up. Some considerable orders are in hand for foundry material and light malleable castings. At Dronfield the Bessemer works of Wilson and Cammell have been turning out large quantities of rails.

Most of the Sheffield trades are still in a languid state, and without much prospect of an early improvement. The Bessemer works are working tolerably well, and there is every appearance that the Phoenix Company will be re-formed, many of the old shareholders being very desirous that the concern should be carried on, for there are large and profitable orders in hand. The offer of 12s. in 1l. being accepted, there is no reason why the new company should not at once be in full operation. The armour-plate mills have been running very well on Government and other orders, and there is a very few enquiries for ship and boiler plates. The American houses are very quiet, particularly as regards cutlery. The foundries are doing very well, especially in heavy castings and tubing, grates, stoves, and ranges. House coal in most parts of South Yorkshire is almost a drug, and there has been a marked falling off in the business doing to London and the South from the leading collieries. Prices have come down, but merchants and consumers still hold back, no doubt believing that a still further drop must be made, and which is not at all unlikely. Steam coal is not in such request as might be expected for the season, although a good deal is being sent away for shipment.

It is usual at this time of the year, when the export demand for steam coal is the largest, to advance the price of it. But the contrary has been the case this season, for at a meeting of the South Yorkshire Steam Coalowners' Association, held at the King's Head Hotel, Barnsley, on Tuesday, it was agreed to reduce the price of steam coal from 12s. 6d. to 11s. 6d. per ton. The Oakwell Colliery, close to Barnsley, now in liquidation, is not likely to turn out very well, it is said. The concern is a very small one, the seam of coal being thin, and not of particularly good quality, yet a sum of money was given for it by the company very far indeed beyond its value; but persons enter into these speculations without consideration or knowledge, for a visit to the place where such collieries are situated would ensure information as to the actual value. But the Oakwell is not the only colliery in the same locality that will have to be wound-up, for there are others in equally as shaky a state, and the dissolution is a mere question of time. It is said that the thick coal collieries are scarcely paying, and if such is the case there is a very poor chance indeed for those working thin beds.

At the annual meeting of the Midland Institute of Mining Engineers, held at Barnsley, a few days since, Mr. T. W. Embleton, of Metley, near Leeds, was appointed President for the next three years, and Messrs. Miller, Beaumont, and M. W. P. Maddison Vice-Presidents. It was agreed that the title of the Institute in future should be "The Mining, Civil, and Mechanical Engineers."

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been an improvement in the amount of business transacted. In Iron and Coal concerns' shares prices are again generally lower, the only exceptions being Marbella, Monkland ordinary, and Omoo and Cleland, which are each a trifle higher; and it is worthy of note that these three were also exceptional improvements in the previous week. Myrny Iron Ore has come into demand at 2 to 2½, on the satisfactory interim dividend just paid. Ebbw Vale has declined ¼; Glasgow Port Washington (8l. paid), 3s.; Monkland 7 per cent. guaranteed preference, ¼; Nant-y-Glo and Blaena preferred, ¼; and Scottish Australian are also a trifle lower. In shares of Copper concerns Glasgow Caradon new shares have improved 1s., but all others are lower. The fall in Tharsis descriptions is owing to a rumour that the Spanish Government contemplate a tax on copper; but it may be pointed out that Rio Tinto have not suffered this week. Panulcillo, Russian, and Yorke Peninsula ordinary are each ¼ lower, and the last-named is now as low as it is likely to be. Huntington improved to 46s., but is now moving downwards. Gunnislake (Clitters) is steady, at 1½ to 1½; and Marke Valley is in some request, at 1½ to 1½. Dunsley Wheel Phoenix is steady, at 2s. to 4s.; also West Maria and Fortescue, at 4s. to 8s. Almada and Tinto, ¾ to 1. In shares of Gold and Silver mining companies there have been heavy declines, Richmond being as much as 2½ lower; Flagstaff, 1; and Emma, ¼. Colorado Terrible is, however, firmer, at 2½ to 2½.

Anglo-American mining, it is perhaps needless to say, is in great disrepute at present. This is to some extent justified by the misfortunes of imprudent investors in "Wild Cat" schemes, but what attention may be called to is the most disastrous effect it is having on really valuable properties, honestly managed, which happen to be in need of capital at present. The I.X.L. Company may be particularised; it possesses 4510 feet of gold and silver bearing lode, within a few miles, and it is believed on the same mineral belt, as the world-famed "Comstock Lode." This company, as announced last week, desire 30,000l. at present on 12 per cent. first mortgage bonds of 20l. each, redeemable in two years, with interest payable quarterly, to enable it to bring the mine into a dividend-paying state, and it is understood the public are not responding to this appeal, at least to the extent required. Investors, therefore, in this description of promising mineral property would do well to give their attention to these bonds, which will be found to present more than usual attractive features. The following extract is from the manager's report, which it may be stated is sworn to as correct by every miner in Silver Mountain (where the mine is situated), and all the county officials:—"You have a first class lode, which, when fairly opened up, will develop itself into a mine of the richest character—a mine that will redeem the present hazy reputation of American mining enterprise, repay quickly all your outlay, and repay you ten thousand fold." It may be stated, "Belcher," "Crown Point," and "Ophir" mines, three of the greatest Californian prizes, have some of them gone over 2000 feet deep, while the greatest depth yet attained by I.X.L. is only 435 feet yet. In shares of oil companies, Young's Paraffin have been dealt in at 5½, closing firmer at 5½ to 5½; Flintshires remain depressed at 1 to 2. In miscellaneous, little doing; Scottish Wagons, all paid, have again advanced, being good at 12½ to 12½. A detailed list of the several days' business follows:—

On THURSDAY last the market was quiet, and business done small. Benhar (all paid), 9¼ to 10. Canadian Copper Pyrites opened at 40s., but improved to 41s. 6d., closing 41s. to 42s. Emus done at 40s., closing 39s. to 40s. Glasgow Caradon (original), 28s. to 27s.; new shares at 19s. Huntington done at 44s. 6d. and 45s., closing about 46s. Lochore and Capledra done at 5½. Marbella, 82s. to 84s. Monkland (ordinary), done from 55s. to 56s., closing 55s. 6d. to 56s. Omoo and Cleland done at 48s., closing 47s. to 49s. Richmond flat at 14 to 14½. Tharsis, 24½ to 24½; this is the first day for a long time past on which not a single transaction has been recorded in these shares, and shows the idle state of the market. Scottish Wagon (all paid), 12 5 16ths to 12½.

On FRIDAY a larger business was done. Benhar (all paid), 9¼ to 10. Bolekow, Vaughan & Co. done at 50½, closing 50½ to 51. Canadian Copper Pyrites done at 41s. and 40s. 6d., closing 41s. to 42s. Conglog Slate and Slab offered at 10, being 3½ lower. Ebbw Vale 17 to 17½. Emus done at 40, closing 38s. to 40s. Flagstaff lower at 2½ to 2½. Glasgow Caradon, 26s. 6d. to 27s. Glasgow Port Washington (8l. paid), done at 1¼; and all-paid shares offered at 3¼, both showing a reduction. Huntington opened lower at 45s., but advanced to 46s., closing 45s. 6d. to 46s. Marbella done at 82s. 6d. and 83s., closing 82s. 6d. to 83s. 6d. Monkland (ordinary) firm at 55s. to 56s. 6d. Nant-y-Glo and Blaena (preferred), 44 to 45. Omoo and Cleland, 46s. to 48s. Richmond again lower, done at 13½, closing 13½ to 13¾. Russian Copper also lower at 2½ to 3. Scottish Australian, 1½ to 1¾. Tharsis done at 24½, closing 24½ to 24½; new shares, 16½ to 16½. Young's Paraffin, 5 to 5½. Scottish Wagon (all paid) remain at 12 5 16ths to 12½.

On SATURDAY the business transacted was very small. Benhar (all paid), 10 to 10½. Canadian Copper Pyrites done at 40s., closing 40s. to 41s. Colorado Ter-

rible higher at 25% to 27%. Dunley Wheel Phoenix, 2s. to 4s. Glasgow Caradon original, 2s. to 27%; and new shares, 17s. to 19s. Gunnislake (Clitters) rather offered at 13% to 15%. Huntington done at 48s., closing 45s. to 47s. Javall lower, at 3% to 5%. Monkland ordinary, 58s. to 57s., being a trifle higher, but 7 per cent. guaranteed preference lower, changing hands at 63%. Omoa and Cleland, 48s. to 48s. Tharsis flat, done from 24 1/2 to 24, closing 23 1/2 to 23 3/4. New shares also lower, done at 16, closing 16 to 16 1/2; this fall is owing to a rumour that the Spanish Government contemplate a tax on copper. West Maria and Fortescue firm, at 3-16ths to 3/4, call paid. Scottish Wagon (all paid), done at 12 1/2.

On Monday (being contingent) a small business was done. Benhar (all paid) done at 10, closing 10 1/2. Dunley Wheel Phoenix firm, at 2s. to 4s. Ebbw Vale done at 17, closing 17 to 17 1/2. Emma flat, done at 37s. 6d., closing 37s. to 37s. 6d. Flagstaff lower at 13 1/2 to 14. Glasgow Port Washington (8. paid) better, done at 31s., closing 30s. to 31s. Huntington steady at 45s. to 47s. Javall, at 3% to 5%. Marbella, 83s. to 85s. Monkland ordinary steady, at 56s. to 57s. Richmond Consols flat, at 12 1/2 to 13 1/2. Scottish Australian better, at 13 1/2 to 14. Tharsis done, at 23 1/2 and 21, closing at these prices. New shares done at 16. Young's Paraffin, 5 to 5 1/2. The following were the rates of continuation current to-day:—Contango, 24. 1/4, 1/4, 24. 1/4, on Canadian Copper Pyrites, 14. 1/4, on Emma, 14. 1/4, on Glasgow Caradon, 3d. on Glasgow Port Washington, 2d. on Huntington, 4d. 1/4, on Marbella, 2d. on Monkland ordinary, even 3d., 6d., 9d. on Tharsis (all paid), 9d. on Tharsis new. Backwardations, 2s. 6d. on Shotts iron stock. There is no particular change in these rates when compared with those current at last settlement; it may be noted, however, that the contango on Emma and Marbella are a trifle stiffer, while those on Glasgow Port Washington and Huntington are easier.

On Tuesday the account opened for settlement 30th inst., Tuesday, 27th inst., will be contango 1/2, a moderate business was done. Almada and Tiritio, 3/4 to 4/4. Australian Mines Investment offered at par. Canadian Copper pyrites done at 40s., closing 40s. to 41s. Ebbw Vale done at 17 to 17 1/2. Emma done at 36s., closing 35s. to 36s. Glasgow Port Washington (8. paid) done at 14. Huntington, 45s. to 46s. Javall firm at 9s. to 11s. Monkland ordinary, 56s. to 57s. Myndy Iron Ore remain at 15 1/2; the directors have just paid an interim dividend of 2s. per share, being the same as at this time last year. Omoa and Cleland have advanced to 49s. 50s. Panulillo lower at 1 to 1 1/2. Richmond done at 12 1/2, closing 12 1/2 to 13. Tharsis done from 24 1/2 to 24 1/2, closing 24 to 24 1/2. Young's Paraffin done at 5 1/2, closing 5 1/2 to 5 1/2. York Peninsula ordinary, 3/4 to 3/4. Scott's Wagon, all-paid, higher at 12 1/2 to 12 3/4.

On Wednesday a larger business was done. Arncliffe done at 63 1/2, closing 63 1/2 to 64. Benhar new (5. paid) shares done at par. Canadian Copper Pyrites opened lower at 38s. 6d., but recovered to 40s., closing 40s. to 40s. 6d. Colorado Terrible 2 1/2 to 2 3/4. Ebbw Vale, 16 1/2 to 17 1/2. Emma done at 34s., closing 35s. to 37s. Flagstaff lower at 13 1/2 to 14. Glasgow Caradon, original, done at 26s. 6d. Gunnislake (Clitters) remain at 13 1/2 to 15. Huntington lower, done at 44s. and 43s., closing at these prices. Marbella done at 83s. 6d., closing 83s. to 84s. Monkland ordinary, closing 56s. 6d. to 56s. Omoa and Cleland done at 49s. and 50s. Richmond lower at 12 1/2 to 13; the following telegram having been received from the mine at Eureka, Nevada:—"Weeks run, \$45,000." Scottish Australian 13 1/2 to 14. Tharsis done at 23 1/2 to 23 3/4, and 24, closing about 24. York Peninsula ordinary lower, at 3/4 to 3/4; Scottish Wagon, all-paid, again lower, at 12 1/2 to 12 3/4.

The following are this week's prices of some stocks, shares, &c., occasionally dealt in on this market, but not quoted (with few exceptions) on any of the Scotch Stock Exchanges:—Iron, Steel, and Coal Companies: Andrew Knowles and Sons, 23 1/2; Britannia Iron-works, 10; Cardiff and Swansea Steam Coal, 3 1/2; Chapel House Colliery, 3 1/2 to 4 1/2; Great Western Colliery, 9; Leigh and Wilkes Barre 6 per cent. first mortgage, guaranteed by Central Railroad of New Jersey (U.S.), 8 1/2; Llynvi, Tondur and Ogmore Coal and Iron, 26; Myndy Iron Ore, 15 1/2; Newport Abercrom Colliery, 3; New Sharlaton Collieries, preferred, 5 1/2; Powell's Llantwit Colliery, 2 to 3; Scottish Australian Mining, new shares, 5-16ths; South Cleveland Ironworks, 4; Ulverston Mining, 10 1/2; West Cumberland Iron and Steel, 9 1/2; Copper, Lead, Tin, &c., Companies: Almada and Tiritio, 3/4; Bensberg Lead, 3 1/2; Bowden Hill Manganese, 3/4; Copiapu Mining, 3 1/2; Court Grange Lead, 3/4; Drake Wall, 6; Great Laxey, 14 1/2; Gunnislake (Clitters) 13 1/2; I.X.L., 3; Lady Consols, 1; New Consols, 2; New Quebrada, 3 1/2; North Hendon Lead, 3 to 4; Plympton Lead, 7 1/2; South Rokeby, 6 1/2; West Esqair Lead, 1; West Maria and Fortescue, 3/4; Wheel Mary Hutcheson, 1 1/2; York Peninsula Mining 15 per cent. guaranteed preference, 3/4; Yorkshire Mining, 3-16ths to 1/4; Gold and Silver Companies: Australasian Mines Investment, 1/2; Battle Mountain, 2 1/2; Chontales Consolidated, 5/4; ditto new shares, 3/4; Colorado Terrible Lode, 2 1/2; Don Pedro North del Rey, 11-16ths; Eberhardt and Aurora, 8 1/2; Eschexquer, 3/4; Frontino and Bolivia, 5/4; Javall, 1/4; Pestarena United, 1/4 to 3/4; Port Phillip and Colonial, 16-16ths; Rica, 1/4 to 3/4; Santa Barbara (late Par), 1/2; St. John's and Bet, 3/4; South Aurora, 7-16ths; Teconia, 3/4; United Mexican Lead, 3 to 4; "The Gold," 3/4; Winter's Freehold, 2 to 5—Oil Companies: Flintshire Oil and Cannel, 1 to 2; Melthian, 3/4; West Cadell, 1 1/2—Miscellaneous Companies: Aberdeen Lime, 15 1/2; Bede Metal and Chemical, 3 1/2; Conglog Slate and Slab, 10 1/2; General Sewage and Manure, 9; Langdale's Chemical Manure, 5 1/2; Law's Chemical, 6; Native Guano, 6 1/2; Newcastle Chemical, 13 1/2; North Cornwall Kaolin, 1; Phospho Guano A, 7; ditto B, 2; Thames Chemical, 5; and subjoined are the latest prices, &c., of those quoted on the Stock Exchanges:—

Amount of share.	Amount paid up.	Name.	Latest price.
10	10	Arncliffe Coal (Limited)	63 1/2
10	10	Benhar Coal (Limited)	10
10	10	Ditto	10
100	100	Bolekov, Vaughan, and Co. (Limited) ..	50 1/4
10	10	Cairnaburn Gas Coal (Limited)	8 9-16
10	10	Chillingham Iron (Limited)	5 1/4
32	20	Ebbw Vale Steel, Iron, and Coal (Limited) ..	17
10	10	Fife Coal (Limited)	4
10	10	Glasgow Port Washington Iron and Coal (Limited) ..	13 1/2
10	10	Ditto All paid	3 1/2
10	10	Lochore and Caple (Limited)	8 1/2
10	10	Marbella Iron Ore (Limited)	83s. 6d.
10	10	Monkland Iron and Coal (Limited)	55s. 6d.
10	10	Ditto 7 per cent. Guaranteed Preference ..	6 1/2
100	100	Nant-y-Glo and Blaenau Ironworks pref. (Limited) ..	44 1/2
10	10	Omoa and Cleland Iron and Coal (Limited) ..	2 1/2
1	1	Scottish Australian Mining (Limited)	13 1/2
80	80	Shotts Iron	7 1/2
10	10	Ditto New, issued at 2 1/2 premium	7 1/2

Amount of share.	Amount paid up.	Name.	Latest price.
10	10	Canadian Copper Pyrites (Limited)	3
10	10	Ditto All paid	8 1/2
10	10	Cape Copper (Limited)	34
2	2	Dunley Wheel Phoenix Tin (Limited)	2s.
1	1	Glasgow Caradon Copper Mining (Limited) ..	26s. 6d.
1	15s.	Ditto New	19s.
10	10	Huntington Copper and Sulphur (Limited) ..	43s.
25s.	25s.	Kapunda Mining (Limited)	3 1/2
4	4	Panulillo Copper Mining (Limited)	1 1/2
10	10	Rio Tinto (Limited)	7 1/2
10	10	Russian Copper Mining (Limited)	2 1/2
10	10	Tharsis Copper and Sulphur (Limited)	24
10	10	Ditto New	16
1	1	York Peninsula Mining (Limited)	6s. 3d.

Amount of share.	Amount paid up.	Name.	Latest price.
20	20	Emma Silver Mining (Limited)	36s.
10	10	Flaet Silver Mining (Limited)	36s.
5	5	Last Chance Silver Mining (Limited)	1 1/2
5	5	Richmond Mining (Limited)	12 1/2

Amount of share.	Amount paid up.	Name.	Latest price.
10	10	Dalmeny Oil (Limited)	111s. 6d.
10	10	Uphall Mineral Oil (Limited)	3
10	10	Young's Paraffin Light and Mineral Oil (Limited) ..	5 1/2

Amount of share.	Amount paid up.	Name.	Latest price.
50	25	London & Glasgow Engineering & Iron Shipbuilding ..	19
20	10	Peruvian Nitrate (Limited)	7
10	10	Scottish Wagon Company (Limited)	12 1/2
10	10	Ditto New	96s.

Last day for this account July 27; settling day, July 30.

NOTE.—The above list of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in this list, they will be good enough to communicate the name of the company with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.
Post Office Buildings, Stirling, July 15.

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AND OF THE
FAIRBAIRN ENGINEERING COMPANY (LIMITED).

THE CREDITORS of the ABOVE-NAMED COMPANY are required, on or before the 2nd day of August, 1875, to SEND THEIR NAMES AND ADDRESSES, and the particulars of their DEBTS or CLAIMS, and the NAMES and ADDRESSES of their SOLICITORS (if any), to Sir THOMAS FAIRBAIRN, BARONET, and AUGUSTUS HENRY NOVILL, Esquire, the Liquidators of the said company, at 15, New Broad-street, in the City of London; and, if so required by notice in writing from the said Liquidators, are, by their solicitors, to COME IN and PROVE their said DEBTS or CLAIMS, at the Chambers of the Vice-Chancellor Sir RICHARD MALINS, at No. 3, Stone Buildings, Lincoln's Inn, in the county of Middlesex, at such time as shall be specified in such notice; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such debts are proved.

Friday, the 6th day of August, 1875, at Twelve o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the debts and claims.
ALFRED RAWLINSON, Chief Clerk.
CUNLIFFE AND BEAUMONT, 43, Chancery-lane.
Dated this 9th day of July, 1875.

ROCKS TIN MINE, ST. AUUSTELL, CORNWALL.

NOTICE TO CREDITORS.

ALL PERSONS claiming to be CREDITORS of the ROCKS TIN MINING COMPANY are required, on or before the 6th day of August next, to SEND IN their NAMES and ADDRESSES, and the full particulars of their SEVERAL CLAIMS on the said company, to the undersigned, Messrs. HODGE, HOCKIN, and MARRACK; or, in default thereof, they will be EXCLUDED from the BENEFIT OF THE DISTRIBUTION OF ASSETS, proposed to be made shortly after the said 6th day of August, 1875.
HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.
Dated July 14, 1875.

SALE OF BROWN-COAL MINES.

THE BOARD OF ADMINISTRATION of the DUX-BRUX-KOMOTANER BRAUNKOHLEN-BERGBAU-AGTENGESellschaft (DUX-BRUX-KOMOTAN BROWN COAL MINING JOINT STOCK COMPANY) hereby announces that, in accordance with a resolution of the General Meeting of June 2nd current, A PART OF THE VAST MINING PROPERTY of this company is to be OFFERED FOR SALE.
Purchasers are requested to apply for the terms of sale, &c., to the Bergwerks Direction (Mining Directory) of the Company in Brux; or to the Central Bureau in Prag (Ferdinandstrasse, 25). Payments may be made in part in stocks of the company.
Written enquiries will be promptly answered.

THE BOARD OF ADMINISTRATION.

CARDIGANSHIRE.

THE ESGAIR-HIR SILVER LEAD MINE TO BE SOLD BY TENDER.
TENDERS are invited for the PURCHASE of the SETTLEMENT, PLANT, and MACHINERY of a very valuable MINING PROPERTY, known as the

ESGAIR-HIR MINE.

Situated in a celebrated Mineral District, in the county of Cardigan, near the important town of Aberystwith, the thriving village of Talybont, and about seven miles from the Llanfihangel Station on the Cambrian Railway.

The sett is very extensive, and the lodes are large, and have yielded many thousands of tons of ore at and above the 20 fathoms level, which was the deepest point worked on before the present company became possessed of the property. About £8000 worth of ore has been taken from a short driving level; and in order to further develop the property the main shaft has been sunk 30 fms. below the deepest point of the old workings, and in the opinion of competent mining engineers who have inspected the property, all that remains to be done to make it a great and lasting property is to explore the lodes.

The Mine is held under a lease from Sir Pryse Pryse, Bart., of Gogerddan, of which eighteen years are unexpired, at a royalty of 1-16th for the first four years, and 1-15th for the remaining fourteen years, and is plentifully supplied with water.

Tenders to be forwarded on or before the 31st day of July next to Mr. GEORGE JOACHIM, of 25, Cornhill, London, but the vendors do not bind themselves to accept the highest or any tender.

Further particulars, and a copy of the inventory of the machinery and plant, and orders to inspect the property, may be obtained of Mr. F. WILLIAMS, Tredol, Glandovey, R.S.O.; or of Messrs. HUGH HUGHES and SON, Solicitor, Aberystwith.

ARSENICAL MUNDIC.

TENDERS will be RECEIVED by the Committee of the PRINCE OF WALES MINE, at the office of the company, St. Michael's House, Cornhill, London, on Saturday, the 24th instant, for the PURCHASE of about EIGHTY TONS of ARSENICAL MUNDIC, now ready FOR SALE at the Mine, near Callington.

Samples and particulars may be obtained on application to Capt. GIFFARD, at the mine.
The committee do not bind themselves to accept the highest or any tender.
Dated 9th July, 1875.

TALARGOCH LEAD MINE.

TO BE SOLD, BY PUBLIC TENDER, the celebrated MINE known as the TALARGOCH MINE, situated near RHYL, NORTH WALES, which has been worked for a number of years with great success. Over 20,500 tons of lead ore and 13,000 tons of blende were raised and sold during the period of ten years ending December, 1874.

The mine is in full operation, and in good working order, the average monthly returns for the present year being 117 tons of lead ore and 168 tons of blende. Both on surface and underground the property is fitted with machinery in proportion to its magnitude, and it is confidently believed that good management and further development only are required to return as good or better dividends than heretofore.

Sealed tenders to be delivered at the offices of Messrs. WALKER and SMITH, Solicitors, Chester, before Eleven A.M. on Monday, the 26th day of July, 1875, and to be there opened at Twelve at noon on that day.
Orders for inspection, with particulars and conditions, and forms of tender, can be obtained on application at the mine; or to J. R. JONES, Esq., Pystill, near Holywell; Mr. JOHN S. BLEASIE, 15, Lord-street, Liverpool; HENRY E. TAYLOR, Esq., Mining Engineer, Chester; or Messrs. WALKER and SMITH, Solicitors, Chester.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.
THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, ALL the BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situated in the several parishes of Llangynog, Llanfihangel-y-n-Mochnant, Hiranant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.
The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.
The works may be inspected at any time upon application to the Manager at the Mines. The leases and agreements may be inspected at the offices of Messrs. LONGUEVILLE, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected, on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwch, Ruabon; or to Messrs. LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

ON SALE, owing to the illness and advanced age of the Owner, a HIGHLY SUCCESSFUL COLLIERY, at present raising 100 tons a day, with arrangements in progress to raise 200 tons in the course of four months.
Address, "R. G. O." MINING JOURNAL Office, 26, Fleet-street, London.

FOR SALE (cheap), nearly new, a CARR'S DISINTEGRATOR, 6 feet diameter.
Address, Mr. JOHN RENNIE, Metropolitan Buildings, Queen Victoria-street, E.C.

CONDENSING AND NON-CONDENSING HORIZONTAL STEAM ENGINES, of the highest class, at low prices.
PUMPING AND WINDING ENGINES. First-class references.
ENGINEERS' TOOLS of all kinds, unrivalled for arrangement and general usefulness, at low prices. Inspection invited.
POLLOCK AND MACNAB,
BRITANNIA IRONWORKS, HYDE, NEAR MANCHESTER.

PORTABLE STEAM ENGINE FOR SALE, 35-horse power, with link motion reversing gear; also an 18-horse, both with or without pit winding and pumping gear.
FOR SALE, a new 6 ft. pan MORTAR MILL, and a good second-hand 6 horse power PORTABLE STEAM ENGINE. Price of both, £165.
BARROWS AND STEWART, ENGINEERS, BANBURY.

FOR SALE, BY PRIVATE CONTRACT, EXTENSIVE and VERY VALUABLE RED HEMATITE IRON ORE MINES in CORNWALL. The ore yields 50 per cent. of metallic iron.
The Mines are conveniently situated both for rail and shipment, and the quantities available on the estates are supposed to be practically inexhaustible.
Apply by letter, in the first instance, to—
Messrs. BARNARD AND HARRIS, 12, Finsbury Circus, London.

STEAM ENGINES, &c., FOR SALE:—
ONE STRONG 70 in. cylinder, and FOUR BOILERS, about 45 tons.
ONE 36 in. ROTARY, TWO BOILERS, large fly-wheel, and two boilers, 20 tons, with or without 36 heads of stamps.
ONE 26 in. WINDING ENGINE, modern construction, with expensive gear.
ONE 22 in. WHIM ENGINE, with powerful steam capstan, capable of lifting 60 tons.
ONE 16 in. CAPSTAN ROPE.
Large quantity of PUMPS, from 20 in. downwards.
Apply to Mr. STEPHEN BARKER, 16, Oozells-street North, Birmingham; or to Mr. R. H. WILLIAMS, C.E., Cuddra House, St. Austell.

DEER PARK MINE, NEAR CALLINGTON, CORNWALL. IN LIQUIDATION.

MESSRS. MAY, MURCH, AND JACKSON are favoured with instructions from the Liquidators TO SELL, BY AUCTION, in One Lot, as a going concern, on Tuesday, July 20, 1875, at Three o'clock in the afternoon, at Golding's Hotel, Callington, Cornwall, on such conditions as will be produced, the

DEER PARK MINE.

Situate in the parish of STOKECLIMBLAND, near CALLINGTON, together with the VALUABLE MACHINERY and APPLIANCES thereon.
The PLANT includes a 40 in. cylinder PUMPING ENGINE, with a 40 in. 10 in. plunger lift, 18 in. 8 in. lift, main rod, balance bob, horse whim, 80 ft. wire rope, attached, two buddles, burning house, dressing floors, tools, carpenters' and smiths' shops, offices, and the usual requirements of a mine.

The whole of the plant and machinery is as good as new, and in first-class working condition. The shaft is 12 ft. by 7 ft., divided and cased throughout. There are eight well-defined lodes on the set, neither of which have been worked before offers exceptional advantages.
To capitalists, or for the purpose of forming a joint stock company, the above notice will be given.

Captain J. BUCKNELL will attend at the mine every Monday and Thursday prior to the sale to show the property; and for further particulars apply to the Auctioneers; to R. EASTON JAMES and Co., 53, Moorgate-street, London, E.C. R. WILDE, Esq., 27, Moorgate-street, London—Public Accountants; or to Messrs. BELLAMY, STRONG, and EDELOW, Solicitors, 84 1/2, Bishopsgate-street, London. Dated Plymouth and Liskeard, June 28th, 1875.

BY ORDER OF THE LIQUIDATOR.
IN THE MATTER OF THE FALCON CLIFF MINING COMPANY (LIMITED).

MR. THOMAS WYLIE WILL SELL, BY AUCTION, ON Tuesday, the 27th inst., at Two for half-past Two o'clock precisely, at the Law Association Rooms, Cook-street, Liverpool, in One Lot, subject to conditions of sale, which can be inspected at the office of the vendor's solicitors at any time at the TWO SETS, held by them in the parish of Rushen, in the Isle of Man, together with the whole of the

MACHINERY, PLANT, STORES, &c.

The machinery includes a vertical high-pressure STEAM ENGINE (expansive and condensing), designed for pumping, winding, and crushing, with a cylinder of 30 inches diameter, 7 feet stroke, metallic piston, double-beat Cornish valves, fitted with reversing and expansive gear; also a large double beam fly-wheel, with hammer iron connections, a BOILER 30 feet long and 6 feet diameter; also the winding apparatus, with about 200 fathoms of 2 1/2 inch charcoal wire-rope, also the pumping apparatus, crank, balance bob, and about 70 fathoms of 9 inch and a few fathoms of 6 inch pumps, with the usual accessories.

The CRUSHING MILL comprises one pair of 24 inch iron rolls in cast frames, hammer shafts, and adjusting levers, revolving sieve, and ruff wheel.

The shaft has been sunk 72 fathoms below the adit, or about 70 from the surface, and is 11 feet by 8 feet wide (inside measurement), divided by strong timbering into winding, pumping, and ladder ways. The adit and the several levels, at the depths of 12, 24, 36, 48, 60, and 72 fathoms, have been driven in the aggregate (principally upon the course of a strong north and south lode), for from 750 to 800 fms., the whole of which is now open for inspection by intending purchasers.

There are two crab winches, 100 fathoms of 3/4 inch chain, smith's tools, some iron, steel jumpers, miners' hammers and picks; about 100 tons of "through" coal, timber, and such sundries as are usually found at similar establishments.

The ore which has been raised, and which is in the hoppers and on the dressing floors, will also be included in the sale, and the dial and office furniture.

The leases are for twenty-one years, from the 10th of October, 1866, and comprise the minerals under nearly 900 acres. The royalty is 1-12th of the minerals gotten, with minimum royalties amounting to £20.

Every facility for inspecting will be afforded by Capt. RICHARD BARKELL, the agent of the mine; and any further particulars may be had on application to the Liquidator, Mr. JOHN S. BLEASIE, Commerce Chambers, Lord-street, Liverpool; or Messrs. BARTLETT and ATKINSON, Solicitors, 22, North John-street, Liverpool.

NORTH WALES, MERIONETHSHIRE.

VALUABLE FREEHOLD ESTATE, possessing high mineral value, and situate in the heart of the vast SLATE BEDS of the Festiniog District.

MESSRS. VENTOM, BULL, AND COOPER WILL SELL, BY AUCTION, at the Sportsman Hotel, Portmadoc, on Tuesday, August 17th, at Two o'clock precisely, in One or Six Lots, the valuable FREEHOLD ESTATE, known as

"PARC."

Situate within a short distance of Portmadoc and Beddgelert, and comprising about TWELVE HUNDRED ACRES.
Several leases have been granted by the owners to companies who are very successfully working fine veins of slate, and applications for fresh leases are now on hand. The mineral value of the property is almost incalculable.

Particulars and plans may be had of Messrs. W. GRIFFITHS and SON, Solicitors, Dolgelly; and of the Auctioneers, 35, Old Jewry, E.C.

FLINTSHIRE.

SALE OF THE LEESWOOD HILL COLLIERY, at PONTBYDDYNN, near MOLD, and close to the Coal Talon Branch of the Chester and Mold Railway.

MR. THOMAS DEAN begs to announce that he has been instructed by the Mortgagee in possession to SELL, BY AUCTION, at the Black Lion Hotel, in the town of Mold, on Monday, the 2nd day of August, 1875, at Three for Four o'clock in the afternoon prompt, in One Lot, subject to conditions to be then produced, the Lessee's Interest in all that

SNEYD COLLIERY, BURSLEM.

MESSRS. FERGUSON AND SON WILL SELL, BY AUCTION, at the Railway Hotel, Stoke-upon-Trent, Staffordshire, on Thursday, 25th day of July, 1875, at Four o'clock, in the afternoon, unless previously disposed of by Private Contract, and subject to conditions to be then produced, all the ESTATE and INTEREST of Messrs. C. and J. MAY, as lessees from the Right Honourable the Earl of Macclesfield, of and in all those well-known and valuable COAL and IRONSTONE WORKS, called the

SNEYD COLLIERY.

Situate close to the town of Burslem, inclusive of the ENGINES and WORKING PLANT, PIPE and BRICK WORKS, OILWORKS, LIME KILNS, UNDERGROUND RECOVERIES, and WORKS. This Colliery, containing in a ring fence upwards of 190 acres, is in full operation, and is held by the present Lessees on a 21 years' lease from the 25th of March, 1871, and is held by the present Lessees on a minimum or dead rent (lapsed into royalties) of at moderate royalties, and the lease also contains a provision with reference to the value of the coal known as the Norton Section of Mines, which are entirely intact, whereby the lessees are entitled to priority in treating with the lessor for a lease thereof. The lessor's mining agent, Mr. Bean, has by a recent report fixed the royalties to be paid for such Norton Section for a term of 40 years on a moderate scale. Arrangements, it is believed, can be made to lease the Norton Section of coals in several adjoining collieries.

In addition to the Coal and Ironstone Works, there are large and well arranged Fire Brick, Quarry, and Sanitary Pipe Works, at which, as well as on other parts of the property, extensive and profitable businesses may be carried on. The works of the property, extensive and profitable businesses may be carried on. The works of the property, extensive and profitable businesses may be carried on. The works of the property, extensive and profitable businesses may be carried on.

These Works are also beneficial to the working of the colliery, as they ensure a regular custom for a large amount of coal and slack. A profitable business has also been done in supplying ground marl to the neighbouring manufacturers. This has been done in much increased, the demand being great, and the supply of marls being, which are noted on this estate for their superior quality) being, when opened out, literally inexhaustible.

In addition, there is an Oil Distillery erected at an outlay of over £5000, containing 40 retorts capable of producing (from the shales that exist in abundance on the estate) 24 tons of crude oil per week. By a small outlay in the erection of a refinery the crude oil can be converted, with much advantage, into paraffin and the various products of the oil shales. A portion only of the purchase money would be required to be paid on completion; the remainder can remain on proper security. Copies of the Lease and Plans, and Sections of the Property and Mines and the Mining Surveyor's reports can be inspected at the offices of Messrs. CHALLINOR and Co., Solicitors, Leek; and full information can be obtained from Mr. R. SYRELL, of Hanley, Mining Surveyor; or on application to Mr. A. BOULTON, 140 Waterloo Road, Burslem; or to Messrs. CHALLINOR; or Mr. SHAW, Solicitor, Leek.

VALUABLE MINING PROPERTY.

THE WELL-KNOWN CONISTON AND TILBERTHWAITE COPPER MINES IN NORTH LANCASHIRE.

T. M. FISHER, SONS, AND CO. are instructed to sell, as a GOING CONCERN, at the Clarence Hotel, Spring Gardens, Manchester, on Tuesday, the 3rd August, 1875, at Four o'clock in the afternoon, in One or more Lots, as may be decided upon, subject to conditions of sale to be then produced, all those valuable and extensive MINING PROPERTIES, known as the CONISTON AND TILBERTHWAITE COPPER MINES.

The FREEHOLD BUILDINGS at CONISTON comprise FORTY-ONE NEW HOUSES (with outbuildings and a railway station). In four blocks, pleasantly situated in the village, and near the railway station. The LEASEHOLD BUILDINGS, which are at the Mines, include THIRTEEN Cottages, complete Suite of Offices, Board and Managers' Rooms, Pay Offices, Changing Rooms, Cooking Kitchens, Powder Magazine, Storehouses for Material and Dressed Copper, large Smiths' Shop, fitted with seven hearths, Carpenters' Shop and Saw Mill, Stables, Mill-houses, and large sheds for stamps and jigger machines, and several ranges of shedding for sorters and dressers.

The Copper Station is situated about three-quarters of a mile from the principal dressing-works, and at the terminus of the Coniston branch of the Furness Railway; with sheds for unloading the ore, large sampling floors, and platform over siding for loading several trucks, &c.

The PLANT includes THIRTEEN large overshot WATER WHEELS, varying from 12 to 45 ft. diameter, THREE small WATER WHEELS, Crushing Mills, Screens and Elevators, Jigging Machines, Stamping Mills, Tramways and Hoists, Iron Wagons, &c.

The Coniston mining set is about three miles square, the lodes are numerous and well defined, and as the workings have been confined to three or four lodes, a large part of the set is undeveloped. The mines are now in partial work only, and the present returns average about 100 tons of ore per month.

The water power is almost unlimited, as a level has been driven into a mountain tarn of about 45 acres area, called Lever's Water, from which, in addition to the mountain streams, a large supply of water is drawn. No steam power is required, and the only coals used are at the Smiths' shops.

The present lease of the Coniston set expires in 1880. The royalty is 1-18th, without any surface rent, and a renewal of the lease on the same terms can be obtained.

Tilberthwaite Mines comprise a large area, adjoining Coniston. The deep level is driven 1080 yards, and unwaters a large district; the lodes are only partially opened out. There is a large vein of slate rock of good quality near the level mouth, for which offers to work have recently been made, and the supply of water is most ample. These mines are held on lease, of which ten years are unexpired, at a minimum rent of £60, merging in a royalty of 1-18th.

The buildings on the Tilberthwaite Mines are Mill House, Smiths' Shop, Copper Works, and shedding for sorters, &c.; and the PLANT embraces TWO large WATER WHEELS, 12 and 32 ft. diameter, near Crushing Mill, with revolving Screens and Elevators, Jigging Machines, Iron Wagons, &c.

The mines have been worked for many years by an ordinary trading partnership, and have paid large profits. They are now offered for sale in consequence of the advanced age of some of the partners, and of the decease of others, whose representatives are not in a position to expend the necessary capital for further developing the mines, and providing the requisite additional machinery for economically working the same. A very considerable sum has been laid out in opening the mines, of which the purchaser would reap the advantage.

The rental of the house and cottage property is about £250.

The mines, plans, and property can be inspected on application to Mr. BENNETT JONES, or to Capt. BAWDEN, at the offices, on the Mines; and any further particulars and information, with catalogue of machinery and plant, may be obtained in London at the MINING JOURNAL Office, 26, Fleet-street; and from Messrs. THOMAS BREAKEY and Son, Surveyors, Leek; the Auctioneers, 29, Blackfriars-street, Manchester; or HARRY ARNOLD, Esq., Kendal.

MOLD, FLINTSHIRE.

SALE OF THE INTEREST OF THE MOLD MINES (LIMITED), as Lessees in the well-known MOLD LEAD MINES, situate at Cat Hole and Gwernymynydd, near to the town of MOLD, together with the WHOLE of the very VALUABLE ENGINES, PLANT, and MACHINERY belonging thereto.

MESSRS. CHURTON, ELPHICK, AND CO. beg to announce that they have been favoured with instructions from the directors of the above company TO SELL, BY AUCTION, at the Black Lion Hotel, in the town of Mold, on Wednesday, the 4th day of August, 1875, at Two for a quarter past Two o'clock in the afternoon, prompt, in One Lot, and subject to conditions to be then produced, the

INTEREST OF THE MOLD MINES (LIMITED), and matters wherewith to make lead in and under a considerable tract of land of nearly 1½ mile in length, as well as in the ENGINE HOUSES, OFFICES, BUILDINGS, SHAFTS, and LEVELS thereon and therein, together with the whole of the extremely valuable PUMPING and MACHINERY belonging to the mines, comprising an 85 inch beam PUMPING ENGINE on the Cornish principle, with 22 and 24 inch pumps, and corresponding pit work 200 yards deep, 18 inch horizontal WINDING ENGINE, with link motion; donkey engine, crushing mill, jigging machines, water wheel, weighing machines, capstans, pit head, wire and other ropes, and a considerable number of other mining articles, the whole being in first-rate condition.

These mines which are held by the company at low royalties and free of dead rent, under an agreement for a lease from the Lords of Mold for a period of 21 years from the 25th of March, 1870, consist of a fine range of lead mines, within 2 miles of Mold, and are respectively known as Cathole, Pilkington, Deborah, and Gwernymynydd, and have the reputation of being one of the richest fields of mineral wealth in the Principality of Wales.

Upwards of £30,000 have within the last few years been spent in opening out two of the mines and on the plant and buildings at the western portion of the property.

The mines are well known to, and have at various times been reported on by, Mr. J. Darlington, of the Miners' Mines, Mr. Edward Hull, F.G.S., of the Geological Survey of Great Britain, Messrs. Woodhouse and Jeffcock, Mr. Arthur Waters, late Mr. Robert Williams, who was agent to the Lords of Mold, and they all concur in regarding this as an exceedingly valuable property.

Further particulars can be had on application to Messrs. KELLY, KEENE, and ROSES, Solicitors, Mold, where also a plan of the estate, and a schedule of the plant and machinery, can be seen; or to the Auctioneers, Chester and Whitechurch (Salop).

TO BE SOLD, BY AUCTION, BY MR. JOHN CHURTON (of

the firm of Churton, Elphick, and Co.), the person appointed by the Vice-Chancellor Sir EDWARD MALINS, to whose Court the winding-up of the Matter of the HOLYWELL LEAD SILVER LEAD MINING COMPANY (LIMITED), and in the Matter of the Companies Acts, 1862 and 1867, is attached at the Queen's Hotel, in the City of Chester, on Saturday, the 7th day of August, 1875, at Two o'clock in the afternoon, in One Lot. Certain FREEHOLD HEREDITAMENTS, with the MINES and MINERALS therein situate at Holywell, in the county of Flint, containing 4 A. 2 R. and 17 P., or thereabouts.

Also the FREEHOLD MINES and MINERALS lying under two small pieces of land adjoining the before-mentioned hereditaments, and containing respectively 2 A. 2 R. 20 P. of land, or thereabouts, situate at Holywell aforesaid, and also the upon the said premises.

The several properties may be viewed on application to, and particulars and conditions of sale when ready, may be had gratis of Mr. JOHN STANLEY BLEASER, the Company; Messrs. GREGORY, ROWCLIFFES, and RAWLEY, 1, Bedford-row, London, solicitors; Messrs. DUGGAN, HILL, and DICKINSON, 10, Water-street, Liverpool, solicitors; Messrs. CHURTON, ELPHICK, and Co., Foregate-street, Chester, auctioneers, and at the said hotel.

E. W. WALKER, Chief Clerk.
GREGORY, ROWCLIFFES, AND RAWLEY, 1, Bedford-row, London.
(Agents for Dugan, Hill, and Dickinson, Liverpool,
Solicitors for the Official Liquidator.)

Dated this 10th day of July, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

PURSUANT to a Decree made in the Cause of JAMES V. DYSON, the CREDITORS in respect of the BODENICK IRON MINE, in the parish of St. Stephens-in-Bramwell, within the said Stannaries, are, on Saturday, the 24th day of July instant, at Eleven o'clock in the forenoon, TO COME IN and PROVE their DEBTS, before the Registrar of the said Court, at his office, in Truro; or, in default thereof, they will be peremptorily EXCLUDED the BENEFIT of the said Decree.
J. G. CHILCOTT, Plaintiff's Solicitor, Truro.
Dated Registrar's Office, Truro, 13th July, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the GREAT SOUTH CHIVERTON MINING COMPANY.—By direction of His Honor the Vice-Warden, Notice is hereby given, that on the 31st day of July instant, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will proceed to MAKE a CALL of FIFTEEN SHILLINGS PER SHARE on all the contributors of the said company, settled on the List of Contributors as present members thereof.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

JOHN HENRY HAMLEY, Official Liquidator.
Dated Stannaries Court Office, Truro, July 14th, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH WHEEL CROFTY MINING COMPANY.—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS, at the Registrar's Office, Truro, on Friday, the 23rd day of July instant, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are either to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.
Dated Registrar's Office, Truro, the 14th day of July, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the LEEDS AND ST. AUBYN MINING COMPANY.—By the direction of His Honor, the Vice-Warden, Notice is hereby given, that on the 29th day of July instant, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will proceed to MAKE a CALL of THREE POUNDS PER SHARE AND FOUR PENCE PER SHARE on all the contributors of the said company settled on the List of Contributors as present members thereof.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

JOHN HENRY HAMLEY, Official Liquidator.
Dated Stannaries Court Office, Truro, July 14th, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the PARBOLA MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court, was, on the 6th day of July instant, presented to the Vice-Warden of the Stannaries by Alfred Lanyon, of Redruth, in the county of Cornwall, merchant, on behalf of himself and his partners, Martin Treddinick Hitchins, William Michell Geylle, John Harvey Trevithick, Richard Boyne, David Wise Bain, William Bickford Smith, and Thomas Willis Field, carrying on business at Pool, in the parish of Illogan, in the said county of Cornwall, as candle manufacturers, under the style or firm of "The Cornwall Candle and Tallow Company," claiming to be creditors of the said company, and that the said Petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Friday, the 6th day of August next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or his agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioners, their solicitor, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 4th day of August next, and notice thereof must at the same time be given to the petitioners, their solicitor, or his agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall
Agents for S. T. G. Downing, Redruth
(Petitioners' Solicitors).
Dated Truro, July 10th, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the PARBOLA MINING COMPANY (LIMITED).—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court, was, on the 13th day of July instant, presented to the Vice-Warden of the Stannaries by William Harvey, Henry Whitford, William West, William John Rawlings, William Husband, Francis Harvey, and Nicholas James West, carrying on business at Hayle, within the said Stannaries, as General Merchants, under the style or firm of "Harvey and Co.," claiming to be creditors of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, within the said Stannaries, on Friday, the 6th day of August next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or his agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioners, their solicitors, or his agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 4th day of August next, and notice thereof must at the same time be given to the petitioners, their solicitors, or their agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall.
(Petitioners' Solicitors.)

GREGORY, ROWCLIFFES, AND RAWLEY, 1, Bedford-row, London.
(Agents of the said Solicitors.)

Dated Truro, 15th July, 1875.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the MID-CORNWALL MINES (LIMITED).—TO BE SOLD, under the direction of the Registrar of the said Court, by PUBLIC AUCTION, on Monday, the 26th day of July, at Eleven o'clock in the forenoon precisely, at the CORNBURN TUN MINE, in the parish of Roche, within the said Stannaries, subject to such conditions and in such lot or lots as shall be then and there stated, all that the interest of the mining company known as the said Mid-Cornwall Mines (Limited) in the several SETTS or LEASES under which the mining operations of the said company have been carried on, together with the whole of the valuable and extensive PLANT, MACHINERY, MATERIALS, AND EFFECTS,

including all such ores as shall be specified by the auctioneer at the time of sale, belong to the said company, and comprising as follows:—

AT THE CORNBURN TUN MINE.—50-in. cylinder beam engine, 9-ft. stroke in cylinder by 8 ft. in shaft, two boilers about 22 tons, including new perpendicular piped engine, together with first piece of rod and main caps and balance bob, shears, eight arm capstan, 170 fms. 12 in. capstan rope, second, third, and fourth pieces of main rod, iron balance-rod, whelm cage, 29 14-in. pumps, 21 13-in. ditto, several other pumps, stamps wheel, 30 ft. in diameter, and other water-wheels, and a large quantity of timber and iron.

AT THE MAGNETIC IRON MINE.—10-in. vertical cylinder engine, 21 in. stroke, with fly wheel; two balance-bobs, connecting rods, crown wheel, spur wheel, also 6 tons of boiler, with furniture; weigh bridge and house, to weigh 10 tons; pumps, and sundry timber and iron.

AT THE LANZEW IRON MINE.—14 in. horizontal 4 ft. stroke double acting condensing engine, with 11 ft. fly wheel, wrought iron arms, air pump, feed plunger, two balance-bobs, connecting rods, 9 ton boiler, engine and boiler-house, pumps, and a quantity of iron ore.

AT THE BURNBY-HOUSE MINE.—7 in. cylinder portable threshing machine, with wheels, also crown wheel, balance-bobs and connection rods, house lift, 11 piece, pumps, flat-roads, main rods, plunger-lift, shaft tackle, 40-ft. shears, and a large quantity of iron ore.

AT THE HALLEW IRON MINE.—48-in. double-acting cylinder steam-engine, 8 ft. stroke, with fly-wheel, shafts, travelling bob, horizontal rod, two balance-bobs, two axles for 12 heads each, lifters, frames, stands and boiler, 40 ft. long, 6 ft. 6 in. case, by 4 ft. 3 in. tube, with furniture, pumps, and a quantity of iron and steel, and miners' and blacksmiths' tools.

AT THE GREAT BEAM TUN MINE.—36 ft. long, 3 ft. 8 in. tube, 6 ft. case, tube case, new axle for 12 heads, ditto for eight heads, 24 heads ditto, double crab winch, single ditto, blocks, chains of various sizes, pumps, balance-bobs, and a quantity of stores.

MOLINNES MOOR MINE.—The interest of the said company in the sett or lease of this mine will alone be offered for sale, there being no materials thereon. Together with numerous other effects in general use in mines.

To inspect the above apply to Capt. DAVID COCK, at Roche aforesaid; and for further particulars to Mr. JOHN HENRY HAMLEY, the official liquidator of the said mines, at the Stannaries Court Office, in Truro.

THOMAS CHORLTON, 32, Brazennose-street, Manchester.
(Solicitor for the said Official Liquidator.)
R. M. PAUL, Truro.
(Agent of the said Solicitor.)

Dated Stannaries Court Office, Truro, this 8th day of July, 1875.

TYNE CAST MALLEABLE IRON COMPANY,
WORKS: TEAMS, GATESHEAD;
LONDON OFFICES: CHANDOS CHAMBERS, ADELPHI, W.C.
MANUFACTURERS OF ALL DESCRIPTIONS OF
MALLEABLE IRON CASTINGS, delivered in London, carriage free.

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DARLINGTON'S PATENT ROCK-BORING MACHINERY.

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FOR TUNNELLING, DRIVING LEVELS, CROSS-CUTS, AND SINKING SHAFTS.

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NICHOLLS, MATHEWS, AND CO.

ENGINEERS, BRASS AND IRON FOUNDERS,

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CORNISH PUMPING, WINDING, AND STAMPING ENGINES; STEAM

CAPSTANS AND CRUSHERS; WATER-WHEELS; PUMP-WORK;

SHOVELS, AND HAMMERED IRON FORGINGS OF EVERY

DESCRIPTION.

Also of SPUR, MORTICE, MITRE, BEVEL, and other WHEELS, of any dia-

meter up to 12 feet, made by Scott's Patent Moulding Machine, without the

aid of patterns, and with an accuracy unattainable by any other means.

MACHINERY, or FOREIGN MINES carefully prepared.

SECONDHAND MINING MACHINERY, in good condition, always on sale

at moderate prices.

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For SINKING SHAFTS, CUTTING TUNNELS, MINE LEVELS, &c.,

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The "BURLEIGH ROCK DRILL" (improved design) SOLD or RENTED,

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The POWDER of this company can NOW BE SUPPLIED.

PERFECT SAFETY IN USE AND STORE.

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Sample charges for trials and agencies granted on application to the SECRETARY

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Complete information respecting these

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Interest in lieu of dividend 18 per cent. per annum, paid monthly.

Current accounts opened, and 5 per cent. interest allowed on the minimum monthly

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MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for

HIRE and SALE, on immediate or deferred payments. They have also wagons

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cially for shipping purposes. Wagons in working order maintained by contract.

EDMUND FOWLER, Sec.

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* * Loans received on Debenture; particulars on application.

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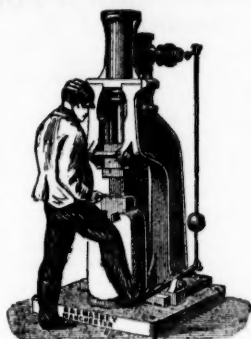
A 50 in. cylinder PUMPING ENGINE.

A 40 in. cylinder PUMP

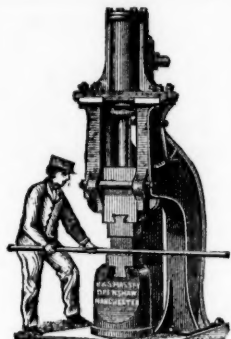
B. & S. MASSEY, OPENSHAW, MANCHESTER.

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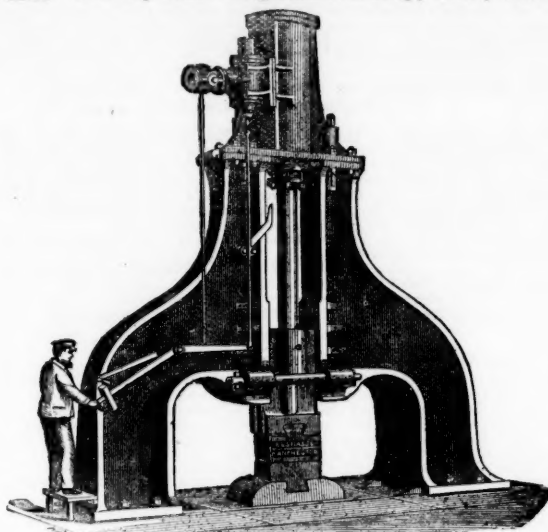
Patentees and Makers of Double and Single-acting STEAM HAMMERS of all sizes, from $\frac{1}{2}$ cwt. to 20 tons, with self-acting or hand motions, in either case giving a perfectly DEAD BLOW, while the former may be worked by hand when desired. Large Hammers, with Improved Framing, in Cast or Wrought Iron. Small Hammers, working up to 500 blows per minute, in some cases being worked by the Foot of the Smith, and not requiring any separate Driver.



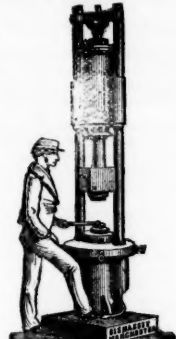
Small Hammer with Foot Motion.



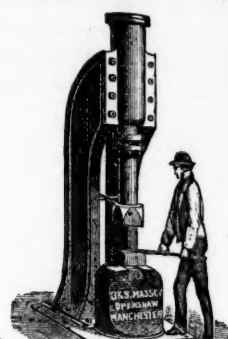
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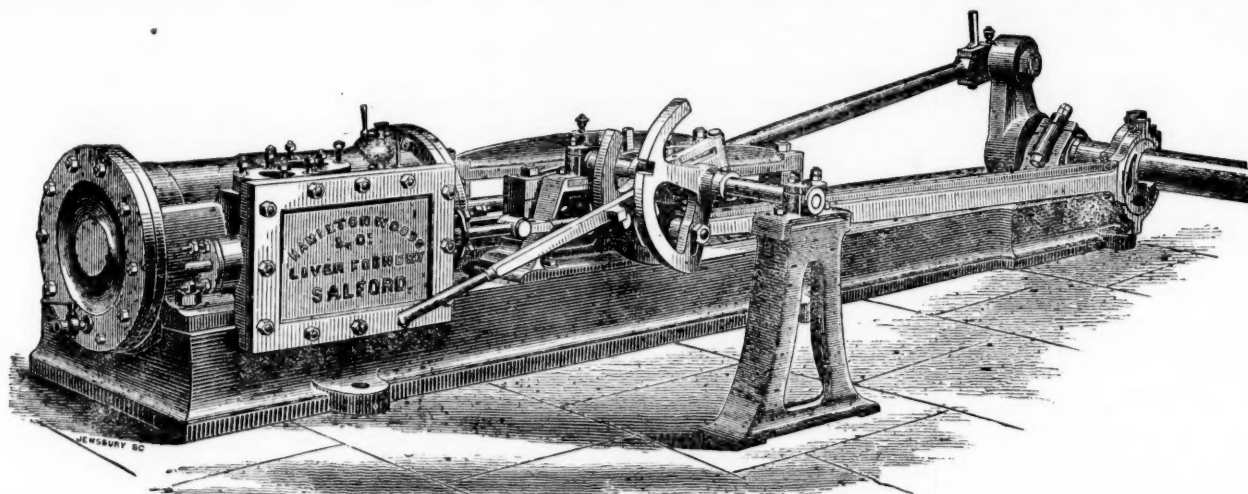


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High-pressure Engines, Vertical and Horizontal, from 3 to 20 h.p.,

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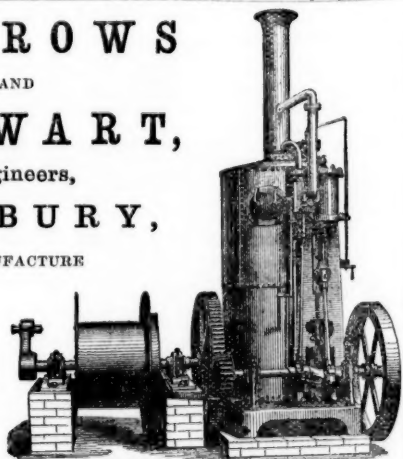
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Portable
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STEAM ENGINES, FOR PIT SINKING
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Also COMBINED MILLS and ENGINES for Grinding Slag, Sand, Mortar, &c.
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EITHER

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MUNTZ'S METAL COMPANY (LIMITED),

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ACCORDING TO THE NEW MINES REGULATION ACT.

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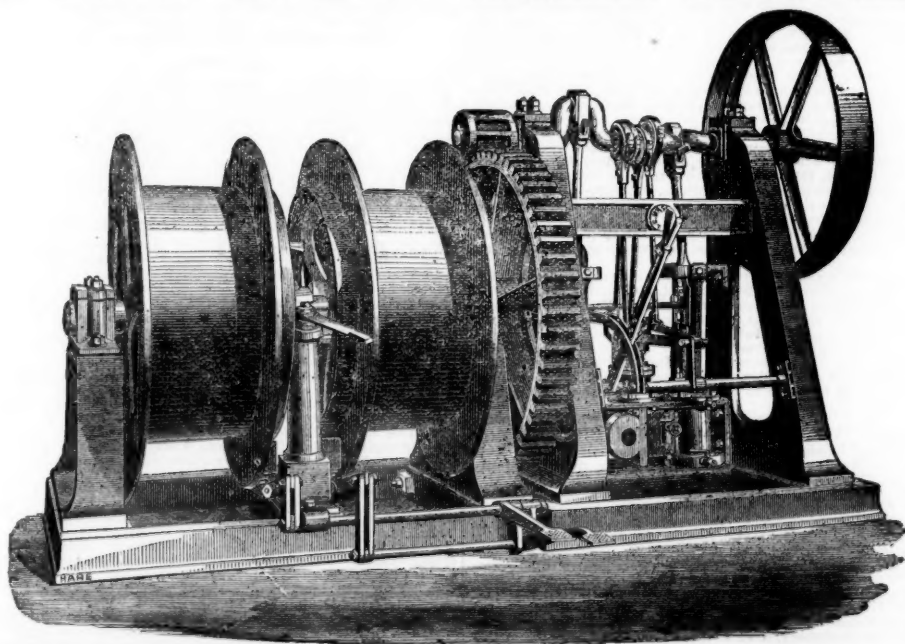
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IMPROVED DESIGN of Engine for HAULING, for use with either Steam or Compressed Air.

Takes less room, and can be supplied for less money, than any other Engine of same power.

May also be had with single drum for winding.

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Is the CHEAPEST and MOST POWERFUL EXPLOSIVE for every kind of MINING and QUARRYING OPERATIONS; for blasting in hard or soft, wet or dry ROCKS; for clearing land of TREE ROOTS and BOULDER STONES; for rending massive BLOCKS of METAL; for SUBAQUEOUS and TORPEDO purposes; and for recovering or clearing away of WRECKS, &c.

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Coal-Getting by Patent Hand-Worked Machinery, WITHOUT THE USE OF GUNPOWDER.

- No. 1 MACHINE - THE HAND COAL-CUTTER, for under-cutting.
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The use of these Machines, while doing away with the greatest source of danger, economises at least Fifty per cent. of the labour required in Getting Coal.

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MANUFACTURERS of every description of ROUND and FLAT ROPES of any length for COLLIERY, RAILWAY, AGRICULTURAL, SHIPPING, and other purposes, and guaranteed of the highest standard of strength.

Best Selected Charcoal Iron, Best Crucible Cast Steel, and extra strong Improved Steel Round and Flat Wire Ropes; Compound-laid non-rotating Flexible Ropes, in Iron or Steel for small gear and sinking purposes; Best Selected Charcoal Iron Guide Ropes; Galvanised and Plain Ropes for capstans, crabs, suspension bridges, canal towing, &c.; Patent Steel Plough Ropes; Galvanised Signal and Fencing Strands; Copper Rope Lightning Conductors; Steel, Iron, and Copper Sash Cords; Picture Cords; Russian, Italian, and Manila Hemp Round and Flat Ropes; White and Tarred Hemp and Flax Spun Yarns; Round and Flat Rope Pulleys and Patent Springs for same; Galvanised Wire Rope for Ships' Standing Rigging; Russian, Italian, Manila, and Coir Cordage; Towlines, Warps, Service and other Lines for Shipping Purposes; Ships' Rigging fitted by experienced workmen.

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Forty-two Machines employed at the St. Gothard Tunnel, Switzerland, and Forty at the Cochem Tunnel, Prussia.

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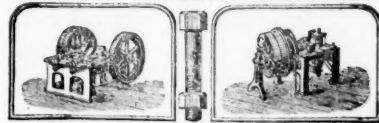
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200 TONS OF BOLTS, NUTS, &c., ALWAYS IN STOCK,
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Excelling all other Lamps.

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(ESTABLISHED 1770.)

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from the very best quality of charcoal iron and steel wire.

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SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE TAPPAULING, OIL SHEETS, BRATTICE CLOTHS, &c.

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.									
Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid		
1500	Alderley Edge, c, Cheshire*	10 0 0	—	—	12 6 8	0 5 0	Jan. 1875		
30000	Bampfylde, c, i, Devon*	1 0 0	—	—	0 2 0	0 2 0	June 1875		
5000	Blaken Caelan, c, Cardigan* (24 sh.)	3 10 0	—	—	0 10 9	—	—		
200	Botallack, t, c, St. Just*	116 8 0	47 1/2	45 47 1/2	619 15 0	5 0 0	Aug. 1872		
10000	Brookwood, c, Buckfastleigh	1 7 6	—	—	2 2 0	0 6 0	Mar. 1875		
4000	Cargill, s, i, Newlyn	1 16 0	—	—	3 6 0	4 0 0	Mar. 1875		
8348	Cash, c, i, Cumberland*	5 7 0	—	—	4 16 3	0 12 6	Oct. 1872		
4000	Cash, c, i, Cumberland*	2 10 0	—	—	1 6 6	0 2 6	Aug. 1873		
1000	Carn Dren, c, t, Illogan*	35 0 0	41	35 37 1/2	308 0 0	1 0 0	Feb. 1874		
6000	Cath, c, t, Penrynendreneth	5 0 0	—	—	0 7 6	0 7 6	June 1873		
2450	Cock's Kitchen, t, Illogan*	20 19 9	6	4 4 1/2	11 17 0	0 7 6	June 1873		
10240	Devon Gt. Consols, c, Tavistock*	1 0 0	—	—	116 10 0	0 12 0	May 1872		
4296	Dolcoath, c, t, Camborne	10 14 10	43	38 40	106 16 8	0 10 0	June 1875		
6500	Drake Walls, t, c, Calstock	6 0 0	—	—	0 2 0	0 2 0	July 1874		
10000	East Fawcett, c, t, Sancreed*	1 0 0	—	—	0 2 11	0 0 5	July 1874		
6144	East Gwennap, c, t, Sancreed*	2 14 6	1 1/2	1 1 1/2	14 19 0	0 2 0	Oct. 1872		
3000	East Hill, c, t, Sancreed*	32 0 0	—	—	228 10 0	1 0 0	May 1875		
4000	East Pool, t, c, Illogan*	0 9 9	16	14 14 1/2	13 13 9	0 2 6	July 1875		
1906	East Wheal Lovell, t, Wendron*	5 19 0	9	7 3 1/2	20 7 6	0 7 6	Oct. 1874		
2800	Foxdale, t, c, Isle of Man*	25 0 0	—	—	80 16 0	0 10 0	Sept. 1872		
40000	Glasgow Carr, c, 30,000 £1 p., 10,000 15s. p.	1 1/2	1 1/2	1 1/2	8 7 4	0 1 6	Jan. 1875		
14000	Great Laxey, t, c, Isle of Man*	4 0 0	14	14 15	18 3 0	0 8 0	July 1875		
25000	Great West Van, t, c, Cardigan*	2 0 0	—	—	0 2 0	0 2 0	July 1875		
4000	Green Heath, t, c, Helston*	40 15 0	—	—	15 19 0	0 2 6	June 1872		
4000	Green Heath, t, c, Helston*	0 0 0	—	—	1 12 0	0 4 0	Oct. 1874		
20000	Grogwinton, t, c, Cardigan*	2 0 0	—	—	0 2 0	0 2 0	June 1875		
9830	Gunnislake (Clitters), t, c	5 5 0	1 1/2	1 1/2	0 7 3	0 1 6	June 1875		
1024	Herodfoot, t, c, Liskeard*	8 10 0	—	—	62 5 0	0 15 0	Oct. 1872		
18000	Hingston Down, c, Calstock* (24 sh.)	2 5 0	1 1/2	1 1/2	4 3 0	0 5 0	Dec. 1872		
25000	Killaloe, t, c, Tipperary	1 0 0	—	—	0 8 11 1/2	0 6 0	Mar. 1875		
400	Lisburne, t, c, Cardigan*	18 15 0	—	—	566 10 0	1 0 0	Jan. 1875		
5120	Lovell, t, c, Wendron	0 10 0	—	—	0 17 6	0 1 6	Jan. 1875		
11000	Melindur Valley, t, c, Cardigan*	3 0 0	—	—	0 7 2	0 3 7	Jan. 1875		
9000	Minera Mining Co., t, c, Wrexham*	5 0 0	—	—	63 19 0	2 0 0	May 1875		
20000	Minning Co. of Ireland, c, t, c, t	7 0 0	—	—	0 8 0	0 3 6	July 1872		
12000	North Hendre, t, c, Wales	2 10 0	—	—	0 1 0	0 2 6	July 1875		
20000	North Lant, c, t, St. Just*	12 2 0	—	—	0 2 0	0 2 0	Sept. 1873		
27585	Old Treburt, s, t, ordinary shares	1 0 0	—	—	0 0 9	0 0 9	July 1874		
9258	Old Treburt, s, t, (10 per ct. pref.)	0 10 0	—	—	0 1 4 1/2	0 6 0	July 1875		
5000	Pedn-ar-dren, t, c, Redruth*	9 17 0	5 1/2	4 6	0 5 0	0 5 0	Nov. 1871		
6000	Penhalls, t, c, St. Agnes	3 0 0	—	—	0 13 6	0 2 0	July 1875		
45793	Penrith, t, c, Gwennap*	2 0 0	—	—	0 2 0	0 2 0	Nov. 1874		
6000	Phoenix, t, c, Llanidloes*	4 13 4	3 1/2	3 1/2	39 19 10	4 0 0	Nov. 1872		
1772	Polberro, t, c, St. Agnes	15 0 0	—	—	1 12 6	0 2 0	Mar. 1872		
18000	Providence, t, c, Llanidloes*	1 0 0	—	—	0 9 0	0 2 0	Jan. 1875		
1120	Providence, t, c, Llanidloes*	16 16 7	3	1 2	104 12 6	0 10 0	Sept. 1872		
2000	Queen's Hill, t, c, Llanidloes*	2 0 0	—	—	4 19 0	0 8 0	May 1875		
12000	Roman Gravel, t, c, Llanidloes*	7 10 0	—	—	0 1 0	0 1 0	Oct. 1875		
10000	Shelton, t, c, St. Austell	1 0 0	—	—	720 0 0	1 0 0	June 1875		
512	South Caradon, c, t, c, St. Cleer	1 5 0	100	90 100	0 10 0	0 2 6	July 1872		
8000	South Carn Bre, c, t, Illogan*	2 6 6	2 1/2	1 1/2	1 7 6	0 5 0	July 1875		
6128	South Conduff, t, c, Camborne*	6 6 6	5 1/2	4 1/2	1 1 6	0 1 6	Nov. 1870		
6000	South Darren, t, c, Cardigan*	3 6 6	—	—	0 8 0	0 2 0	Apr. 1875		
10000	So. Pr. Patrick, s, t, (8000 sh. issued)	1 0 0	—	—	0 9 0	0 4 0	Nov. 1875		
6771	St. Patrick Amalgamated, c, t	3 10 0	—	—	3 13 0	0 5 0	May 1875		
12000	Tankerville, t, c, Salop*	6 0 0	10 1/2	10 1/2	48 3 6	0 5 0	May 1875		
6000	Tinctor, c, t, c, Illogan*	9 0 0	20	18 19	0 1 0	0 1 0	Mar. 1874		
18000	Trevel, t, c, Bodmin	2 0 0	—	—	15 4 0	0 13 0	Nov. 1872		
4000	Trumpton, t, c, Helston*	7 10 0	—	—	62 10 0	0 10 0	June 1874		
15000	Van, t, c, Llanidloes*	4 5 0	2 1/2	2 1/2	7 5 0	1 5 0	June 1873		
8000	W. Chiverton, t, c, Penzance*	12 10 0	18	14 15 1/2	3 12 6	0 5 0	Oct. 1872		
512	West Tolgus, c, t, Redruth*	95 10 0	47	43 45	638 10 0	1 10 0	Aug. 1875		
2048	West Wheal Frances, t, Illogan*	27 3 9	7	6 7	11 5 0	0 5 0	July 1875		
512	Wheal Bassett, c, Illogan*	5 2 6	5 1/2	5 1/2	11 19 0	0 2 6	Dec. 1874		
2048	Wheal Jane, t, c, Kea	2 13 10	3 1/2	3 1/2	82 2 8	0 10 0	Dec. 1872		
4295	Wheal Killy, t, c, St. Agnes	5 4 6	3	2 3 1/2	622 10 0	4 0 0	Dec. 1874		
856	Wheal Margaret, t, c, Llanidloes*	15 17 8	—	—	0 1 0	0 1 0	Dec. 1874		
6000	Wheal Russell, t, c, Tavistock	2 0 0	—	—	0 3 0	0 3 0	Nov. 1874		
10000	Wheal Whistler, t, c, Warleggan*	1 0 0	—	—	0 1 6	0 6 0	May 1874		
26000	Wicklow, c, t, c, Wicklow	2 10 0	—	—	62 0 0	0 2 6	Mar. 1875		
10000	Wye Valley, t, c, Montgomery*	3 0 0	3 1/2	3 3 1/2	0 8 0	0 3 0	Mar. 1873		

FOREIGN DIVIDEND MINES.									
Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid		
35500	Alamillos, t, Spain*	2 0 0	—	—	1 7 9	0 2 0	Mar. 1875		
30000	Almaden, t, Spain*	1 0 0	—	—	0 5 3	0 1 0	Mar. 1875		
20000	Australian, c, t, Australia*	7 7 6	2 1/2	1 1/2	0 13 6	0 2 0	Aug. 1874		
10000	Battle Mountain, c, t, (6240 part pd.)	4 0 0	—	—	0 10 0	0 10 0	Nov. 1872		
15000	Birdseye Creek, c, California*	4 0 0	—	—	0 14 0	0 2 6	July 1874		
6000	Bousberg, t, c, Germany*	10 0 0	—	—	66 0 0	0 8 0	July 1872		
12320	Burra Burra, c, t, Australia*	7 0 0	—	—	20 15 0	1 0 0	June 1874		
20000	Cape Copper Mining, t, c, Africa*	7 0 0	34 1/2	33 35	0 6 0	0 1 0	July 1869		
80000	Cedar Creek, c, California*	5 0 0	—	—	1 12 0	0 4 0	May 1875		
80000	Central American Association, t	0 16 0	—	—	0 13 6	0 4 0	Jan. 1875		
16000	Chicago, s, t, Utah*	10 0 0	—	—	2 8 0	0 2 0	Mar. 1872		
21000	Colorado Terrible, s, t, Colorado*	5 0 0	—	—	1 0 1	0 1 0	July 1871		
100000	Den Bult, t, c, North of the Rey*	0 16 0	—	—	3 12 0	0 15 0	Dec. 1872		
28500	Eberhardt and Aurora, s, Nevada*	10 0 0	—	—	2 10 0	0 2 0	Dec. 1872		
2352	El Dorado, c, Nova Scotia*	10 0 0	—	—	2 10 0	0 2 0	Dec. 1872		
60000	Emma, s, t, Utah	20 0 0	2	1 1/2	2 10 0	0 2 0	Dec. 1872		
70000	English and Australian, c, t, Aust.	2 10 0	—	—	0 3 0	0 3 0	Apr. 1875		
15000	Ferguson, c, California*	2 0 0	—	—	0 3 0	0 3 0	Apr. 1875		
80000	Flagstaff, s, t, Utah*	10 0 0	—	—	4 14 0	0 7 6	Mar. 1875		
25000	Fortuna, t, Spain*	2 0 0	—	—	0 2 4	0 2 4	Oct. 1872		
80000	Gold Run, t, c, Idaho*	1 0 0	—	—	0 14 0	0 2 0	July 1873		
60000	Kapunda Mining Co. Australia*	1 3 0	—	—	14 19 2	0 5 0	Mar. 1875		
20000	Last Chance, s, t, Utah	5 0 0	—	—	0 1 0	0 1 0	July 1875		
15000	Linares, t, Spain*	3 0 0	—	—	0 5 0	0 5 0	Dec. 1872		
60000	London and California, s, t, Nevada*	2 0 0	—	—	0 1 1	0 1 1	July 1875		
7587	Lustitlan, Portugal* (45 shares)	3 10 0	—	—	0 5 0	0 5 0	Dec. 1872		
15000	Mammoth Copper Co. of Utah, c, t	10 0 0	—	—	0 6 0	0 6 0	June 1873		
6000	Mammoth Copper Co. of Utah, c, t	10 0 0	—	—	0 6 0	0 6 0	June 1873		
18000	Prussian Mining & Ironworks, c, t	30 0 0	—	—	1 8 0	0 1 0	Jan. 1872		
10000	Pontigaud, s, t, France*	20 0 0	19	17 19	2 14 0	0 7 6	May 1875		
100000	Port Phillip, c, t, Chile*	1 0 0	—	—	12 1/2	per cent.	May 1875		
50000	Richmond Consols, s, Nevada*	5 0 0	—	—	1 14 0	0 2 0	July 1875		
120000	Scottish Australian Mining Co. t	1 0 0	—	—	0 14 0	0 2 0	Nov. 1875		
112500	Sierra Butte, c, California*	2 0 0	—	—	20 p. ct. for year	June 1875			
60000	South Aurora, c, Nevada*	5 0 0	—	—	3 0 0	0 3 0	Dec. 1874		
2233000	St. John del Rey* (45 shares) and multiple debt	5 0 0	—	—	1 19 4	0 3 0	Apr. 1875		
15000	Sweetland Creek, c, California*	3 0 0	—	—	—	—	—		
20000	Tollima, s, t, (8000 sh. old 45 £1 pd.)	4 10 0	—	—	—	—	—		
18000	Western Andes, s, t, New Granada	5 0 0	—	—	—	—	—		

NON-DIVIDEND FOREIGN MINES.					
Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, c, Victoria*	2 10 0	—	—	Sept. 1872
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—	—	Fully pd.
80000	Blue Tent, <i>hyd.</i> , c, California	5 0 0	6	4 1/2 5 1/2	Fully pd.
60000	Braganza, c, Brazil*	0 15 0	—	—	Fully pd.
12000	Camp Floyd, s, Utah*	10 0 0	—	—	Fully pd.
80000	Cesena Sulphur Company, Romagna, Italy*	10 0 0	—	—	Fully pd.
60000	Chontales, c, s, Nicaragua* (and 12,542 of £1 15s.)	2 0 0	5 1/2	5 1/2	Fully pd.
10000	Crescent, c, s, Plumas Co., California*	5 0 0	—	—	Feb. 1872
100000	Culaba, c, Minas Gerais, Brazil*	0 17 6	—	—	Fully pd.
10000	Douglas, s, Georgetown, Col.	5 0 0	—	—	June 1872
85000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—	—	Fully pd.
60000	Exchequer, c, s, California*	1 0 0	—	—	Dec. 1871
60000	Frontino and Bolivia, s, New Granada*	2 0 0	—	—	Fully pd.
10000	General Brazilian, s*	1 0 0	7 1/2	5 1/2	Fully pd.
40000	Goetzl Tunnel Co., Georgetown, Col.	7 0 0	—	—	Fully pd.
4000	Holcombe Valley, c, s, California	1 0 0	—	1 1/2	Fully pd.
40000	Hornachos, c, s, t, (4 shares) Spain	10 0 0	1	—	Jan. 1873
20000	Imperial Brazilian Coalmine, c, Brazil*	5 0 0	—	—	Jan. 1874
20000	Independence, c, California*	5 0 0	—	—	Fully pd.
20000	I. X. L., c, s, California*	5 0 0	3 1/2	2 1/2 3 1/2	Fully pd.
50000	Javali, c, Nicaragua*	2 0 0	—	—	Fully pd.
12000	Lanestosa, c, s, t, s, Yucaya, Spain (£2 shares)	1 12 6	—	5 1/2 5 1/2	Fully pd.
75000	Malabar, c, Colombia* (65000 issued)	1 0 0	—	—	Sept. 1874
4000	Malaga, i, Spain*	10 0 0	—	5 1/2 5 1/2	Fully pd.
10000	Malpaso, c, Colombia* (10000 pref. shares, fully paid)	1 0 0	—	—	Fully pd.
10000	Meinberg, c, Honnef, Germany*	5 0 0	—	5 1/2 5 1/2	Fully pd.
4000	Monte Loreto, c, Italy	5 0 0	—	—	Fully pd.
15000	New Pacific, c, s, Nevada*	5 0 0	—	—	Fully pd.
60000	New Quebrada, c, Venezuela*	0 10 0	—	5 1/2 5 1/2	Dec. 1874
60000	New Rosario, s, Mexico*	5 0 0	3 1/2	3 1/2 3 1/2	Fully pd.
20000	New Zealand Kapanga, c, Coromandel*	5 0 0	—	1 1/2 1 1/2	Fully pd.
10000	New Zealand Island, * i	10 0 0	—	—	Fully pd.
80000	Northern American, s*	4 0 0	—	—	Fully pd.
80000	Panuleillo, c, Chili* (£80000 debentures)	4 0 0	—	—	Fully pd.
80000	Pentacena United, c, s, t	4 0 0	1 1/2	3 1/2	Fully pd.
50000	Rica, c, Colombia (40000 issued)	3 0 0	—	—	Fully pd.
100000	Rio Tinto, c, s, Huelsa, Spain	1 0 0	—	5 1/2 5 1/2	Fully pd.
100000	Rossa Grande, c, Brazil* (1 shares)	10 0 0	8	6 1/2	Fully pd.
20000	Ruby Consolidated, s, Nevada*	0 10 0	—	—	July 1872.
80000	Russia, c, Orenburg and Uta*	10 0 0	—	—	Fully pd.
25000	San Pedro, c, Chili*	2 0 0	3	2 1/2 3	Fully pd.
40000	Santa Barbara, s, Brazil	2 0 0	1 1/2	1 1/2 1 1/2	Fully pd.
37500	Silver Plume, s, Colorado*	0 9 6	—	5 1/2 5 1/2	Feb. 1872
75000	Snowdrift, c, Colorado	1 0 0	—	—	Fully pd.
20000	St. Lawrence, c, s, California	2 0 0	—	—	Fully pd.
20000	Tecoma, s, Utah*	5 0 0	—	—	Fully pd.
20000	Thornhill Reef, c, Australia*	10 0 0	—	5 1/2 5 1/2	Fully pd.
43174	United Mexican, s, Mexico* [1 shares issued]	1 0 0	—	5 1/2 5 1/2	Fully pd.
14109	Utah, c, s, t, Utah*	20 0 0	—	2 1/2 2 1/2	May 1875
20000	Utah (London)*, s, Australia (25,000 sh. 10s. pd.)	5 0 0	—	—	Fully pd.
75000	Yareta Peninsula, c, South Australia	1 0 0	—	—	Fully pd.
40000	Yerke Peninsula, c, South Australia Preference	1 0 0	—	1 1/2 1 1/2	Fully pd.